

# AMERICAN VETERINARY REVIEW.

SEPTEMBER, 1895.

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## EDITORIAL.

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NEW YORK STATE VETERINARY EXAMINING BOARD—A REMEDY YET REMAINS.—In the August issue of this journal we considered, at some length, the action of the State Veterinary Society in giving to the Board of Regents a list of ten names, that they might make a selection of five, to constitute the new Board of Veterinary Medical Examiners under the recent law placing the licensing of candidates from the various seats of learning in the State in the custody of the Regents.

We were disposed to criticise the action of the State Society as a serious blunder, though not a thoughtless mistake, as it was shown to have been accomplished after deliberation, and in the face of a strong opposition—so strong, indeed, that with the morning attendance it was resolved to exclude teachers from the list; and those members who had attended the meeting for the purpose of voting against the admission of teachers upon the Board felt that their object had been accomplished, and all but one or two departed from the hall and did not again return. When the Society reassembled after recess a new count of noses took place, which revealed the fact that the opponents were in a minority, and then followed a transaction which we are glad to say only a few members of the profession in New York State were participants in. *ELEVEN MEMBERS* (*seven of whom were placed in nomination and four of whom have actually been appointed*) proceeded to rescind the action of the full morning meeting, and had the whole morning session expunged from the minutes, so that upon the books of the Society it does not appear that there

was any morning session. These eleven men, all apparently friendly to the same cause, resolved themselves into a mutual admiration society, and one nominated the other, which was duly seconded and immediately carried. So few were they that they finally began nominating in bunches of three at a time; and, with two exceptions, they each received ten votes. The list of names that had been selected when the full meeting was in session was thus thrown out, and a new list of names placed in nomination, which included certain teachers in veterinary colleges in this State, whose students would come in competition with those from other schools before the Board of which they were to be members. The action of that special meeting, therefore, had the appearance of being an attempt, by certain interested schools or representatives thereof, to gain control, or representation at least, upon the State Board of Examiners, for by no other course of reasoning can we reconcile the desire of these teachers to become examiners, especially when they or their friends were willing to resort to such a questionable procedure as is disclosed by the facts. Certainly, a sense of fairness and a desire for impartiality would have constrained a declination of the use of their names. Having, however, gone upon the list that was sent to the Board of Regents, it appeared to us that that body of ethical gentlemen would—if they were aware of the status of the individuals whose names had been submitted to them—settle the question of college representation among the examiners by using their prerogative of selecting those who were not directly interested in particular schools. We called upon them to take this step, in all fairness; but we cannot tell whether our appeal would have had the desired effect, for before that issue of the REVIEW left the binder's hands the appointments were belched forth from Albany, as announced in the following dispatch to the N. Y. *Tribune* of July 26th:

Albany, July 25.—The State Board of Veterinary Medical Examiners, appointed by the Board of Regents of the State University to arrange for examinations for license to practice veterinary medicine in this State, held its first meeting in the department of the Board of Regents this afternoon.

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The following are on the Board: Prof. James Law, of Cornell; Dr. R. S. Huidekoper, of New York; Dr. N. P. Hinkley, of Buffalo; Dr. Wm. Henry Kelly, of Albany, and Dr. C. D. Morris, of Pawling. The Board organized by the selection of Prof. Law as President and Wm. H. Kelly as Secretary. The following was the designation of the five chairs: Dr. R. S. Huidekoper, anatomy and surgery; Dr. C. D. Morris, physiology and hygiene; Dr. W. H. Kelly, obstetrics; Dr. N. P. Hinkley, chemistry, therapeutics and materia medica; James Law, pathology, diagnosis and practice.

And thus we stand: The law has been passed; the State Society has furnished the Regents with the prescribed ten names; and they have appointed the five *disinterested* veterinarians who are to hold office as examiners.

We declare in all seriousness that the placing of these teachers upon that Board, and by the contemptible subterfuge that was employed in that disgraceful special meeting, is a blot upon the good name of the State Society which the members at large should not be willing to pass unrebuked. They have been used as a catspaw to further the selfish ends of a few men; and if she countenances such transactions her days of usefulness are at an end, as all men who stand for fairness and the good of the whole profession as against a clique, must see that its objects have been perverted and its influence used for the personal aggrandizement of those who are temporarily in control.

And this is what the promulgators of this law have labored for! Surely, it was a boomerang; and its rebounding blow is more violent than we anticipated. It is a repetition of the glacier climber, who ascended one foot and slipped backwards two feet—except, in this instance, the backward progression is a thousand feet.

The faculty of a school could not be trusted to pronounce upon the merits of a student who had studied within its walls for three long years, whose character and capabilities the teachers had every opportunity to study; but it is taken out of their hands and placed in charge of—who? Of a teacher in a rival school from which the candidate comes, whose own personal interest and pride is vested in his own institution,

and the success of whose students before the Board would add to the reputation and, consequently, to *the financial benefit of the source from which he receives his salary as a teacher*. The success of his own students would shine the brighter if the students from the rival schools were less successful. And so human instincts would tend to make this Board unfair.

If we assume that such considerations do not enter into the question—that the examiners do not allow individuals nor their sponsor to influence the decision upon the merits of the candidate—the whole principle is wrong for another important reason. Every medical man who is capable of doing any independent thinking knows that he has obtained views at variance with the teachings of his text-books and preceptors, from personal observation and experience; and, if he be a teacher, he will, in the course of a lecture season, instill his ideas into his students, and thus they become converts to his peculiar views. The students from other schools may have received as careful training, and even better, than his own; but it is upon a different line of reasoning, and, possibly, the correct line. It is self-evident that of the two classes of answers which that examiner will receive, the higher rating will be accorded to that student who has absorbed his own intuitions, even though they be wrong or fanatical; and thus the other student has been unjustly treated by a biased examiner.

Every person, whether a scientific man or an intelligent layman, will regard this Board of Veterinary Examiners as a biased and interested body of men, who will do more to retard veterinary progress and send it back from whence it emerged some fifteen years ago, than any lack of legislation could possibly have done.

But the case is not hopeless. It is true, the appointments have been made, and legally entitles the recipients to hold office for the period of their incumbency. There is, however, a quick, absolute and effectual remedy. Almost every progressive veterinarian, especially he who earnestly desires that his profession shall rise to the plane of our sister science of human medicine—which does not permit teachers in interested schools to sit in judgment upon rival schools—is anxious to do

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some individual act which shall assist in this uplifting, and to be a benefit to his colleagues and the science of his adoption. More especially should this be expected in those who stand out as teachers of the embryonic veterinarian, and as deontological examples. And just here is the remedy. Certainly those who have been placed in this embarrassing position by the combined or concerted action of the State Society and the Board of Regents, can do no more graceful nor magnanimous service for the profession they have labored so long for than to *at once send in their resignations* to the source from which they received the compliment of an appointment, showing at once to the whole veterinary profession that they are unwilling to harass and jeopardize the future of veterinary medicine for the sake of a little cheap personal notoriety and the opportunity to benefit their own school at the expense of the great cause of veterinary science in America.

UNITED STATES VETERINARY MEDICAL ASSOCIATION.—The thirty-second annual meeting of this association will convene at Des Moines, Iowa, on Tuesday, September 10th, and remain in session on Wednesday and Thursday, 11th and 12th. It is expected that more members will be in attendance at this meeting than at any of its predecessors, and that many of the practitioners of the Northwest will apply for membership in the National body. We have, in a previous issue, given some good reasons why the annual meeting of this association should be held in some centrally located Western city, rather than the extreme East or extreme West, and we believe this year's meeting will show the wisdom of the *Comitia Minora* in selecting Des Moines.

The programme is full of promise, for many interesting subjects are outlined in the papers to be read, and the Disease Committees will have full reports, while the educational problems for discussion will partake of specially interesting and important features.

We have received from Secretary Dr. Leonard Pearson the full programme, which we print on another page, and which will be found teeming with the good things that await those who are so fortunate as to be able to be present.

We bespeak for this year's meeting of the U. S. V. M. A. a full attendance, interesting papers, liberal discussions, abundance of good fellowship, and plenty of social enjoyment.

MEETING OF THE FACULTIES.—We call attention to the meeting of the Association of Veterinary Faculties of North America, which will take place on the occasion of the convening of the National Association at Des Moines, Iowa, occupying the evenings of the first two days. Elsewhere we print the programme, as furnished by Chairman Schwarzkopf, which displays a brilliant array of interesting subjects and interesting speakers. Dr. Detmers, of Columbus, in speaking upon the subject of "State Boards of Veterinary Medical Examiners and their Relation to Veterinary Colleges," especially has an opportunity to engage the members with a live topic of the most vital interest to not only every association member in attendance, but every veterinarian in America, for the recent action of the Board of Regents of the State of New York, at the instigation of our own State Society, is a strike at the very foundation of the profession of veterinary medicine. Let the Society of Faculties enter its protest in the form of ringing resolutions of condemnation, so that the Regents may at once see the feeling of the colleges on their unprecedented action. If this were the only subject for discussion it would render this a most important meeting, but there are many others of much interest and profit.

PROF. LAW'S CONNECTION WITH THE EXAMINING BOARD.—We have received and take much pleasure in printing upon another page, a long letter from Prof. James Law, of Cornell University, explanatory of his attitude in relation to the State Board of Veterinary Examiners, to which he was recently appointed by the Regents. We disclaim, and Prof. Law does not charge, any intention upon our part of uttering a word which shall be construed into a personal allusion, but we feel that such a cruel injustice has been inflicted upon the rank and file of the profession, and its future members, that our language is plain and unadorned by anything which is liable to obscure our meaning.

TO OUR READERS.—From the success which has attended the reorganization of the REVIEW in its business department, and its augmented corps of contributors, we feel that the veterinary profession thoroughly appreciates the work which this journal has been doing for so many years, and which she is better prepared to carry on now than ever before. We recognize the fact, however, that much interesting matter is escaping our readers, through the failure of themselves to act upon our oft-repeated request to report their interesting cases for the benefit of their fellow practitioners, and to record their views upon professional subjects as gained by observation and experimentation. We are pleased to offer the pages of the REVIEW for this purpose, for the report of the proceedings of all society meetings, news of a professional nature, and all other matters of direct interest to the great clientage which we are endeavoring to assist.

## ORIGINAL ARTICLES.

### THE PREVENTION OF TUBERCULOSIS BY THE USE OF INDIVIDUAL STALLS.

By GEORGE N. KINNELL, M.R.C.V.S., Pittsfield, Mass.

A great deal is being written and spoken and done in regard to the problem we have before us in dealing with and suppressing the disease tuberculosis among our dairy animals. The wisdom and necessity of some definite and radical course of action is admitted by everyone who has taken the trouble to acquaint himself with the most ordinary features of the nature and prevalence of the malady. That it has existed among our cattle for a long time we know, and, like a fire, gathering strength as it spreads. We know that of late years the disease has gained gigantic proportions, and is rapidly undermining and ruining the largest herds of our finest and most valuable neat stock.

In this commonwealth the past year has witnessed the inauguration of a campaign of extermination of the diseased

animals, and so far as the work has progressed it has received the endorsement of a large majority of our citizens. So far so good. It is a first essential step towards our goal. But, after all, it is only one step. Of itself it is but a temporizing measure and gives us no assurance or hope of being even an approximately final settlement of the difficulty. Affected animals are by no means the only source from which healthy ones contract the disease. We still have a constant supply from the diseased human subject against whom no quarantine restrictions have yet been devised. With a continuance of our present system of housing stock and attending to them, if all the tuberculous animals in the State were killed and buried to-morrow it would not be more than a few years before we would again have an appreciable amount of tuberculosis, and in a few years more than that we would find ourselves in practically the same predicament we are in to-day. In order to be successful the war against tuberculosis must be waged along the whole line; and until such owners can come to realize the necessity of keeping their cows under entirely different conditions than at present obtain, and until the medical profession can educate the public mind to an appreciation of the necessity of applying to diseased persons a degree of quarantine at least approximately equal to that enforced against diseased cows, there will be tuberculosis, and to spare, both among cows and among people.

In the suppression of this disease there are three essential points to be borne in mind.

1st. That we shall have reliable facilities for recognizing the disease.

2d. That we shall have the power to slaughter diseased animals when discovered.

These two points we can dismiss with a word. Our facilities for diagnosis are all but perfect. In tuberculin we have a test harmless to healthy animals, and as to diseased ones not only wonderfully but fearfully exact. The power of slaughter we already have, nor need we fear that it will ever be withdrawn.

But there is a third feature more important, far reaching

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and practical than all the rest, a feature which as yet has hardly received recognition, far less the adoption of any adequate provisions for its correction, viz., the eradication of those conditions which make tuberculosis possible, or rather, I should say, those conditions which make the continuance of the disease an absolute certainty.

Of all the various much-talked-of causes of tuberculosis, whether they be hereditary predisposition, system of breeding, heavy feeding, forced milking, filth, bad drainage or any of the many which can be mentioned, there is not to my mind one or half a dozen put together which in any way approach in harmfulness the injury which is caused by the almost universal system which obtains in the arrangement of the ordinary cow stall. It would baffle the ingenuity of man to contrive a system which would be better calculated to ensure the spreading of a contagious pulmonary disease. There the creatures stand shackled side by side and cheek to cheek, anchored to one spot week in, week out, month after month, breathing and rebreathing the same air, coughing and expectorating into each others faces. What wonder that we have tuberculosis in our herds, and what marvel that it spreads?

It has been proved time and again that once the disease gains a foothold in a herd, it will progress as rapidly in the cleanest and best ventilated barns as it will in the dirtiest and least cared for. I do not wish to be understood as decrying the necessity for cleanliness and ample cubic space, but I do claim that their importance is altogether secondary to another requirement which is hardly ever observed, viz., the necessity of to some extent isolating the individuals of a herd from each other.

It is a common saying that tuberculosis is a highly contagious disease. I question the statement very much. My experience leads me to believe that its range of infection is very limited indeed, probably not more than a few feet at the most. For instance, the spread of the disease among animals kept out of doors is practically unknown; or, in other words, diseased and healthy animals can herd together in the

same pasture with comparative impunity. But, further, let me illustrate what I say by giving what has been a common experience with me in testing diseased herds with tuberculin. Let us suppose we have a herd of seventy-five cows in which the disease has been in existence four or five years, and let us suppose that twenty or twenty-five are diseased. We do not find the diseased subjects sprinkled promiscuously through the herd, here one and there one. No, we find them in clumps and batches, here four or five standing side by side, and there, eight or ten stalls further along, another batch of four or five more with an occasional isolated case between. But let us go further and examine the members of each batch individually. On post mortem examination we find that almost invariably there is in each batch one animal in which the disease is very much more advanced than in any of the rest, and the lesions of much longer standing. Is it not reasonable to say that the case of long standing is the animal from which the other members of the group received their infection? But the breath and infection from this creature were circulating all over the stable in common with the breath of all the other animals in it. If the disease is so far reaching and infectious, why is it that it did not more generally affect the other members of the herd, and why so especially those in the immediate vicinity of the animal worst affected? Of course, in a herd where the disease is of very long standing and great extent, as, for instance, when eighty or ninety per cent. are diseased, and where healthy animals are the exception, this patchy, clumpy feature cannot be recognized.

In September, 1894, at a meeting of the International Congress of Hygiene and Demography, held in Budapest, Professor Bang, of the Veterinary College in Copenhagen, read a paper giving the result of an experiment made at the instance and expense of the Danish Government, by which he demonstrated that the spread of the tuberculosis in a stable could be prevented by such a simple device as the erection of a board partition between the diseased and the healthy animals. And it was not an experiment on a small

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scale either. The herd consisted of two hundred and eight (208) cows of the red Danish breed, besides bulls, heifers and calves. By the tuberculin test it was found that eighty (80) per cent. of the cows, forty (40) per cent. of the bulls and forty (40) per cent. of the heifers and calves were diseased. After a careful disinfection, the diseased and the presumably healthy animals were put at opposite ends of the stable and a wooden partition erected between them. This was done in 1892, and since then the healthy part of the herd has been tested every six months—in all, four times. By the second test ten (10) per cent. reacted and were at once put with the originally diseased part of the herd; six months later they were again tested and only one (1) animal in one hundred and seven (107) reacted, while six months later the test revealed only two (2) animals in one hundred and twenty-two (122) suspected of tuberculosis. The calves from the diseased cows were, as soon as born, taken and put with the healthy part of the herd. The milk from the diseased cows was used for rearing the calves, but before being fed to them it was heated to a temperature of sixty-five (65°) centigrade. He concludes by saying:

"It therefore seems to me to be demonstrated that it is possible to rear a healthy herd on a farm where there is an infected herd, the two being separated by a wooden partition, and that this will prove successful even when the calves from diseased cows are reared."

Professor Bang thinks the reason that ten per cent. among the presumably healthy animals were six months later found to be diseased was because the separation between the two portions of the stable must have been incomplete. I am inclined to think that in this he is probably in error. In all likelihood the animals were diseased at the time of the first test but required a second test to develop the reaction. Among diseased cattle there are always some that do not react to a first test, and the number which do not react is very nearly eight (8) per cent. Consequently, the fact that he found a number more on the second and third tests is readily understood and in no way invalidates the fact that

a wooden partition is enough to limit the spread of the disease in a herd.

Why cannot this system be carried to greater length and applied all round? Why not separate each cow from her neighbors by a partition running direct from the floor to the ceiling; or, in other words, have an individual stall for each animal? Over each cow's head let there be a ventilating shaft at least fifteen (15) inches square. These shafts could be so arranged that every four or six of them would run together into a common shaft to be carried up through the roof.

It may be argued that the isolation thus obtained would be very incomplete, that the poison-laden breath from a diseased subject could still pass back from the creature's head round the ends of the stall and up into the stalls of the adjoining animals. Very true, but the chances of its doing so, and the extent to which it would do so are immeasurably lessened by the presence of the partitions and the ventilators; and besides, in a stall of ordinary depth, before it could reach the next cow's head it would have to pass a distance of at least ten feet, and this, as we have seen, is probably further than the disease germ can be carried free in the air and retain its potency.

My first ideas of this system of construction were obtained from examining a cow-stable on the farm of Mr. John Sloane, of Lenox. This stable measured seventy feet in length, fourteen in breadth, and was seven feet from floor to ceiling. It was divided into fourteen stalls. This gives a total capacity of 6,860 cubic feet, and after making allowance for partitions, approximately 480 cubic feet per animal—not a very large allowance surely. The stalls were so arranged that each animal was shut off from direct communication with those on either side by partitions consisting of double thicknesses of matched boards running right up to the ceiling. The stalls were also boarded up in front but running the entire length of the row, and on a level with the cows' heads were folding doors which opened downward into the driveway of the main barn, and through these doors the ani-

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mals were fed. There were no special provisions for ventilating, and the floor being of wood, and old, could not be kept more than moderately clean. And yet this herd, although it had been exposed to contagion, was by the tuberculin test found to be healthy. The history of it is both interesting and instructive. The fourteen animals kept in this stable had been owned on the place for several years. All of the summer and fall of 1894 they went in the same pasture and in the same yards with six other cows which were brought from the State of New York. It was subsequently found that the herd from which the six cows came was a perfect hotbed of tuberculosis. Consequently, in January of this year, Mr. Sloane had the entire herd tested with full doses of tuberculin. Every one of the six new cows reacted, but not one of the original fourteen. On slaughter, five of these six cows were found extensively diseased, two of them being extremely bad. One of these two worst cases was a cow which had been exhibited and had taken a first premium at the World's Fair, and must have been far gone with the disease at the time of her exhibition.

This feature of having individual stalls for individual animals ought in the construction of a stable to take precedence over every other consideration. While the plan I have suggested is open to criticism on the ground of not being complete enough, yet it is probably as complete as is practicable, is an immense improvement over any other system in general use, and has to recommend it the fact that it can be applied to any of the stables at present in existence, and that at a comparatively trifling cost.

In regard to the matters of cubic space, ventilation, light and drainage, there seems to be among stock-owners no clear conception of what is fit and necessary. The whole matter seems to be in a state of fog and chaos, and the good features which are occasionally met with seem to be more the result of chance and whim than of well directed and intelligent plan.

The Board of Health regulations of the City of Boston, as applied to dairies, require the allowance of 1,000 cubic

feet per animal. Dr. Parker, of Haverhill, found from examination of twelve dairies in the vicinity of Boston that the average cubic space per cow was 522 cubic feet, and this may be taken as a fair average of the stables throughout the State. Of course the amount of cubic space necessary varies very much with the effectiveness of the means of ventilation, but even with the best ventilating facilities it is never advisable to allow less than 800 cubic feet per cow, and the allowance of two or four hundred more would, if erring at all, be doing so on the safe side.

In arranging for ventilation the features to be provided for are a sufficient opening overhead to let heated foul air out, a sufficient opening underneath to admit cold pure air, and allowing the laws of specific gravity to do the rest. A shaft fifteen inches square over each stall will be sufficient for the first requirement. The best way to admit the fresh air is by the medium of large pipes laid underneath the floor, open at both ends outside the building and communicating with the interior of the stable by means of upright pipes set on at regular intervals, running up through and projecting an inch and a half above the level of the floor. For a stable containing say fifteen animals, the underground pipe should be three feet in diameter and should bear four upright pipes each two feet in diameter, covered with a suitable grating. The openings should occur in the floor behind the rows of stalls. This ensures a constant supply of fresh, cool air, and does away with the danger of the much dreaded draught. The projection of the upright pipes above the floor prevents them acting as drainage mediums, and the size of the underground conduit enables a person to pass through and make a periodical cleansing.

The consideration of light is also an important one. It is an ascertained fact that the bacillus of tuberculosis, when exposed for a few hours to direct sunlight, dies, and, it is also true, moderate light, while not killing it, will yet so vitiate it as to render it much less potent in causing disease.

In a stable it is hardly possible to have too much of it, and while it should not be allowed to strike directly in the

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creatures' eyes, it should be so arranged as to completely flood each stall. The floor ought to be water-tight and provided with gutters. The whole interior of the stable should be constructed of materials easily cleansed and washed. An ideal stable ought not to have any overhead storage.

In addition to all these we must not forget the necessity for general cleanliness and periodical special cleansings. A special cleansing ought to begin at the tops of the ventilators and be continued down through every part of the interior of the building, including the drains and underground ventilators.

In such a paper as this it is impossible to enter into details, but it has been my object to indicate those scientific lines along which alone a successful war with tuberculosis can be waged.

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### BOVINE TUBERCULOSIS.

#### TREATING ON THE DANGER FROM COW'S MILK, AND THE LEGISLATIVE CONTROL OF BOVINE TUBERCULOSIS.

By JOHN M. PARKER, D.V.S., Haverhill, Mass.

*[Continued from page 275.]*

It is strange that the sanitary condition of dairy barns should be ignored and neglected as it has. On this subject I make the following quotation from a paper I had the honor of reading before the Massachusetts Veterinary Association in May, 1894:

"As showing that sanitary conditions are not observed as they should be on dairy farms, I have attempted to tabulate the conditions as found on twelve farms in this vicinity. These are not picked out, but are taken at random from farms visited from day to day. The table shows roughly the amount of cubic space per cow; the ventilation, light, water supply; whether there is a cellar, with its condition, and how the manure is disposed of.

No.	No. of Cattle.	Cubic Space for Animal.	Ventilation.	Light.	Water.	Cellar.	Manure. How Disposed of.
1	7	465	none	poor	city	yes	cellar
2	10	286	"	"	spring	no	outside barn
3	1	440	"	none	city	"	"
4	6	224	"	poor	spring	"	"
5	4	143	"	"	"	"	"
6	7	800	stairway	fair	"	yes	cellar
7	7	416	none	good	well	"	"
8	12	487	"	"	"	"	"
9	19	1165	good	fair	"	"	"
10	3	266	poor	poor	"	"	"
11	3	1336	none	good	puddle	"	"
12	12	233	"	"	spring	"	"

"You will notice, as a rule, the cattle are far too crowded. In the city of Boston each animal must have 1,000 cubic feet of space, and probably with good ventilation that may be sufficient; at any rate it is an immense improvement on many farms in other parts of the State; but even 1,000 cubic feet are altogether inadequate if there is no ventilation. What must be the condition of the barns then, when, as in No. 5, there is only 143½ cubic feet for each animal, with no ventilation. In only three farms out of the twelve, you will notice, is there any attempt at ventilation, and even in these it is more in name than fact. And in not a single barn that I have been in is there any provision made for the admission of fresh air.

"Of the twelve barns visited four had good light, two had only fair light, five had very poor light, and one had no light at all.

"As a rule New England farms have good water, but on some farms the wells are situated too near the yard and receive the surface drainage, and in some instances the cattle are even watered in creeks and puddles formed by the surface water.

"Keeping the manure in the cellar is another common practice. In eight of these twelve barns, the manure is kept in this way. At the farm referred to as No. 8, there are twelve cows, each cow with 487 cubic feet of space. This barn is well lighted, the windows facing the south, but there is no ventilation whatever, except when the door is open.



This farmer makes a special boast that his cattle are not out of the barn from fall till spring. They are watered in the barn, and the manure is dropped into the cellar below, where it is allowed to remain till removed in the spring. In making a visit to this barn during the winter, a man who was with me had to leave the barn because of the foulness of the air.

"At another farm, Nos. 2 and 4, there are two barns. In one containing ten cattle, each animal has 286 cubic feet with no ventilation and only one small window for light. The other barn has six cattle, each animal having 224 cubic feet. This one also is without ventilation or sufficient light. In these barns the air was very bad.

"At No. 5 there is no ventilation and only one small window for light; in this barn each animal had only  $143\frac{1}{4}$  cubic feet. Two out of four animals were evidently tuberculous.

"At No. 10 three cows are kept in a tightly boarded pen,  $10 \times 10 \times 8$ , giving about 266 cubic feet to each animal. At this barn there is a small ventilation and one small window, but in winter when everything is tightly closed the atmosphere is fearful.

"The other day I visited a barn, No. 11 and in conversation with the owner, I asked him where he watered his stock. 'In a puddle outside,' he answered. The puddle was a marshy place where the water lodged in wet weather. It was situated about twenty yards from the barn and formed part of the yard. The manure pile was on sloping ground at the side and drained into the puddle.

"At No. 12 there are twelve cows, each having 233 cubic feet, with no ventilation whatever, the farmer taking special pains to have a heavy canvas curtain in front of the cows. This is a fearful hole in winter time, and it has the reputation of being the hottest barn in the district. This farmer is said to lose three or four cows every year.

"No. 3 is a small shanty in the city with neither window nor ventilation. The water is carried to the cow, and she is in the barn winter and summer. Inside the barn is terribly filthy.

"At another farm (the State Experimental Station of a

neighboring State) the barn is so hot and close in winter that a friend of mine who was visiting there had to leave and go into the open air because the hot, foul air in the barn made him sick and inclined to vomit.

"These, gentlemen, are common examples of the average New England farm. Farmers have been taught to do those very things that are injurious to their stock. They have been taught to keep the manure in the cellar. What is the result? You have a damp, chilly atmosphere full of foul odors and organic impurities. They have been taught to keep the barn close and warm, and the only heat it gets is from the animal body. The hotter, they think, the better it is.

"In the great majority of dairy farms there is not even a pretence of ventilation, while the cattle are packed in as close as they can conveniently be put." (Sanitary Condition of Dairy Farms, Mass. Vety. Asso., May, 1894.)

That this condition is not confined to any one district, but is general throughout the State, is shown by Prof. Stockbridge, who, in referring to this condition, said: "In regard to some of the points that have been taken up I feel very much at home. Here is the table of Dr. Parker's. I feel as if I were myself in some one of the many, many barns in Worcester and Middlesex, and, I might almost say, in every county of the State. I have witnessed exactly what he has described and pictured before us. There is one point, however, which I have always preached upon when I have been in those barns which have such close quarters, closed cellars underneath, and where cows are put in in October and do not go outdoors again until the following May. In those cases there is another thing taking place which is injuring the animals, and that is high feeding, to see how much milk they can be forced to produce beyond the capacity of the animal to bear it."

On the same subject Dr. Bailey, veterinarian for the State of Maine, said: "We have a great many such cattle surroundings in Maine as Dr. Parker has so faithfully described in your State, and while I did not suppose you had so many around the 'hub of the universe' as we possess in Maine, I

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have seen some shocking examples of unthrifty dairy stock caused by unsanitary conditions. I discovered a whole herd of cows, not long since, where the animals stood two or three feet higher behind than in front, through the accumulations of their own dung throughout the entire winter of '93-94; and when I asked the farmer what advantage he thought he gained from such a state of affairs, he told me that he could milk them easier when they were propped up behind."

Further, with regard to the importance of the matter, Prof. Ernst remarked: "This table of Dr. Parker's, it seems to me, is a very striking one, and a serious arraignment of somebody. I do not know that the care of the cattle from which a milk supply is obtained is under any one head, but if it is not, such a condition of things as this certainly appears to me to need attention. In regard to the hygienic surroundings of cattle and the specific action of sunlight upon bacilli, there is no question, of course, that these are very active factors in the destruction of the vitality of the organism. As to the exact time, I think it is hardly possible to state what that would be, but it is a well established law that sunlight is the best germicide that we have yet discovered."

While Dr. Abbott, Chairman of the State Board of Health, said: "Such tables as we see on the chart upon the wall, it seems to me, are unusually valuable, and I wish that these twelve observations could be increased to several thousands in the State. It ought to be. It would be very convincing upon this subject to have a large number of tables prepared, showing what are the actual conditions in which animals are kept for the production of milk and for slaughter. There is one column I should like to see added to that, and that is, the disposal of the dust from the stable and barn. That is one of the very important points. It has been shown by observation that dust and the disposal of dust has a great deal to do with the spread of consumption. Those industries which produce very large quantities of dust are those in which consumptives are most frequently found, and I wish that that one point might be shown, that is, as to the amount of dust and the dusty condition of the stable, how it is disposed of, whether

the animals are turned out into the open air when the stables are swept, and whether the barn floors are sprinkled in order to keep the dust from arising, because it is certainly one of the most important conditions." (Proceedings of Mass. Veterinary Association, May, 1894.)

And finally, in a pamphlet on "Tuberculosis, its relations to Agricultural Industry and Public Health," published in 1890 by the State Board of Cattle Commissioners, for the purpose of spreading information on the subject among the people, it is said: "The Commissioners find the most disease where the stables are narrow and tightly boarded up in front, so that the breath of any sick animals must be more or less mingled with that of all the others over and over again, with no sufficient inflow of fresh outside air."

The whole subject is a most important one. The way people live, their occupations and their surroundings have a most important bearing on their health.

So in cattle. Their occupation, standing all winter long in semi-darkness, tied in stanchions unable to move, while the system is being drained through excessive milking and breeding, all these things have an important bearing on the health of dairy cattle. How to remedy these faulty conditions so as to increase the health and vitality of the animal without interfering too much with the use of the cow as a milker, is a problem that must be solved before the true solution of this question can be reached. This is "the most important aspect of the serious problem of bovine tuberculosis. *If the disease can be restricted and repressed among cattle during life the hygienic problem will take care of itself.*"

### THE LAW OF MASSACHUSETTS

IN RELATION TO THE SUPPRESSION OF CONTAGIOUS DISEASES  
AMONG DOMESTIC ANIMALS.

By Prof. F. H. OSGOOD, Chairman of the Commission.

The laws covering this matter were passed in 1894-95. Under the law, the entire supervision and control is placed in the hands of a Board of five Cattle Commissioners, appointed by the Governor, each for a term of three years.



The Commission, as a Board, have control of the entire State, and are given power to make orders and regulations covering the importation and quarantine of cattle, the transportation and treatment of cattle within the State, the matter of quarantine of suspected cases of disease, and the disinfection and cleaning of premises; and are given generally the power to take all steps necessary or expedient to suppress or prevent the introduction of contagious diseases among domestic animals, including glanders, farcy, contagious pleuropneumonia, tuberculosis, Texas fever, foot and mouth disease, rinderpest, hog cholera and rabies, and such other diseases as the Commission may deem to be contagious.

Besides this general power vested in the Commission, each member thereof is individually given the power to enter all premises for the purpose of inspection, to condemn and destroy diseased or unwholesome meat and carcasses which they may find; to quarantine and examine all animals suspected of being affected with or having been exposed to contagious disease, and if they find them diseased to cause such animals to be destroyed and safely disposed of; and in such case no compensation is paid to the owner of the animal destroyed, unless it is destroyed as having been affected with tuberculosis. When such animals are killed, the full value at the time of condemnation, not exceeding the sum of sixty dollars, is to be paid by the State, provided the animal has been owned within the State six months continuously prior to its being killed, and also provided that the owner has not wilfully contributed to the spread of the disease. This is a change over the law of 1894, in that under that law the State paid one-half the value at the time of killing, without taking into consideration the fact that the animal was afflicted with the disease for which it was condemned.

The value of the animal is to be determined either by agreement with the Commissioners or by appraisal of two arbitrators, one to be selected by the Commission and one by the owner. These appraisers are required to be sworn. If the owner is not satisfied with the appraisal or with the action of the Commission in destroying the animal, he is given the

power to appeal to the courts to determine the existence of the disease and the value.

Besides the Cattle Commissioners appointed by the Governor, there are local Boards of Health within each city or town, selected or appointed by the voters, or city or town authorities. These Boards are given the general control of the matter of contagious diseases among the animals in their city or town, and it is made their duty to see that all outbreaks of diseases are suppressed, and that suspected cases are quarantined promptly and reported to the Commission. They are bound by law to obey all lawful orders and regulations issued by the Cattle Commission or any of its members. They are given power to make regulations within the limits of their city or town, to prevent the spread of contagious diseases among domestic animals, and to quarantine animals. Such quarantine must continue until removed by them or by the Cattle Commission or some of its members.

It is made the duty of every person within the State, who suspects or has reason to believe of the existence of a contagious disease among animals, to immediately report it to the Board of Health of their city or town. The Board of Health are immediately to cause the animal to be examined by an inspector or competent veterinarian, and if the animal be diseased to report it to the Cattle Commission.

There is a third class of persons appointed throughout the State, whose business it is especially to watch outbreaks of the disease. These are local inspectors, each city or town being required to appoint one or more such annually. The compensation of these inspectors is paid by the city or town, except that in cities or towns of less than \$2,500,000 valuation the State pays one-half of the compensation of such inspector, this being a new provision passed at the last session of the Legislature. These inspectors are required to be sworn, are made the agents of the Boards of Health, and are bound, under penalty, to obey all orders and regulations of the Commission. It is made their duty to make a regular inspection of all neat cattle, sheep and swine within the limits of their city or town. Prior to this year, such inspection related only

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to neat cattle. They are also directed to inspect all other animals where they suspect that disease may exist, and also to inspect the stables and premises where domestic animals are kept. Upon their inspecting such animals, if they suspect any of them to be diseased, it is made their duty immediately to quarantine such animals by serving written notice of such quarantine order immediately to the Board of Health of the city or town. These inspectors have no power to remove quarantine imposed by them. In case of the inspection of neat cattle, sheep or swine, if they find no disease to be present, it is their duty to give the owner a certificate of such fact.

Prior to this year, the expense of all quarantine was required to be borne by the owner; but under the recent law, where specific animals are quarantined and the owner is forbidden to sell the product, the State bears the actual expenses of the quarantine after the tenth day from the imposing of such quarantine.

The proprietors of all slaughter-house establishments engaged in the business of slaughtering neat cattle, sheep or swine, are obliged to take out a license, which license permits them to slaughter upon particular days. It is made the duty of the local inspector to be present on these days, and to inspect, at the time of slaughter, all neat cattle, sheep or swine, and if he finds them to be affected with a contagious disease, to seize and destroy them, for which the owner receives no compensation. Prior to this year, no such inspection was required in the case of sheep and swine.

Owners not regularly engaged in the business are allowed to slaughter any of their neat cattle on their own premises without a license; but in such case they must have an inspector present to inspect the animal which is to be dealt with, the same as in the case of animals slaughtered at the slaughter-house. If the animal is less than six months old, or has received a certificate of health from an inspector within six months, such animal may be slaughtered by the owner on his own premises without such certificate.

Under the law as it existed prior to the act of this year, the matter of the inspection of animals was left entirely with-

in the control of the Commission. They were to determine the method to be used in making these inspections. Under this law the Commission determined that the only reliable method of detecting tuberculosis was by the injection of tuberculin. This inspection was made entirely by the board of agents specially appointed by them for that purpose, and was not put into the hands of the local inspectors. Under this regulation all animals quarantined as suspected of tuberculosis were tested with tuberculin; and, in addition to this, the Board began a systematic examination of all animals in the State, beginning by quarantining such animals by counties, testing the neat stock within the limits of each county with tuberculin, freeing those which were found to be exempt from the disease, and destroying those found affected with it. Under the law passed at the recent session of the Legislature, it was provided that "until the first day of June, 1896, the use of tuberculin as a diagnostic agent for the detection of the disease known as tuberculosis in domestic cattle shall be restricted to cattle brought into the Commonwealth from any point without its limits, and to all cattle held in quarantine at Brighton, Watertown and Somerville; provided, however, that tuberculin may be used as such diagnostic agent on any animal or animals in any other portion of the State, upon the consent in writing of the owner or person in possession thereof, and upon any animal condemned as tuberculous upon physical examination by a competent veterinarian." Under this restriction the Commission have been obliged to abandon the systematic examination of cattle. They still require all animals coming into the State to be so tested, unless they enter the State accompanied by a proper certificate that they have successfully passed such tuberculin test. All animals quarantined as tuberculous on physical examination are also subjected to the tuberculin test, and tests are made upon written application of the owner.

In brief, the only changes effected by the law of this last year are to extend the regular examination of sheep and swine, to provide for the payment of quarantine expenses in certain cases after ten days, to provide for the payment of the

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full actual value of animals destroyed as tuberculous, in place of paying one-half the sound value, and to restrict the use of tuberculin.

For the purpose of carrying out this law for the entire year 1895, the Legislature appropriated the sum of \$150,000.

### CONTRIBUTION TO THE STUDY OF SWINE PLAGUE, HOG CHOLERA AND PNEUMOENTERITIS OF SWINE.

BY W. SILBERSCHMIDT, M.D., Assistant to the Hygiene Institute, Zurich.\*

The authors, who have studied *swine plague* and *hog cholera*, especially in America, have supplied the bibliography of the subject with such a number of publications that it is necessary, so as not to lose the path, to give a résumé of the principal papers published on the question.

I rapidly pass by those which were anterior to the bacterian era; they are due to Sutton (1850-1858), Snow (1867), Axe (1875), Law (1875), and Detmers (1877).

It is Detmers, who, toward 1876-1877, discovered, in the blood of swine dead by the disease which was then called *hog cholera*, a microbe which he considered as specific. Billings confirmed that discovery. Some years later Schutz (45)† described a microbe found and isolated during a porcine epidemic in Germany, a microbe that Loeffler had already seen before him and which is known under the name of bacillus of Loeffler-Schutz. The disease is named *Deutsche Schweineseuche*; does it differ from *swine plague* is a point upon which Billings and Klein (24) do not agree.

In 1886 Salmon (35), assisted by Theobald Smith, described a second organism and made of *swine plague* and *hog cholera* two distinct diseases. Billings (3, 4, 10) on his side tried to prove that there was but one epidemic in existence, which he called *swine plague*, and attributed to the micro-organism discovered in a case of *hog cholera* by Detmers, and confirmed by him (Billings.)

\*Translated from the *Annales de l'Institut Pasteur*.

† See Bibliography.

In his report of 1885, Salmon closely differentiates *hog cholera* from rouget, as much by the aspect and localization of the lesions as by the differences between the two microbes. On his side, Smith (51) studies the pleomorphism of the microbe of *swine plague*, and the confusion is increased after a new publication made in 1887, where Salmon and Smith proposed to call *swine plague* the disease known until then as *hog cholera*, and call *hog cholera* that which they used to call *swine plague*. The *swine plague* of Billings seems to be identical with the *hog cholera* of Salmon.

To make things more confused, Salmon and Smith relate that in a porcine epidemic they found, upon fifteen cases they examined, the microbes of *hog cholera* and of *swine plague* mixed in six cases; the differential characters that they give to the two microbes do not seem sufficiently distinct to impose conviction.

Then again, about the same time, Cornil and Chante-  
messe (18, 19) describe the characters of an epidemic which they named *infectious pneumoenteritis* of the porcs of Gentilly, and study the biological and pathogenic properties with the attenuation of the microbe which they consider as the specific agent of this disease.

Rietsch and Jobert (30) found the same microbe in another epidemic at Marseilles, and Galtier (22) shows that this microbe, which was considered as specific for swine, is in certain conditions pathogenous for several other domestic animals.

At last Bang, then Selander (48) study in Sweden and in Denmark an epidemic of swine, whose specific agent is a microbe different from that of the German epidemic, but identical, according to them, to the one of the American disease.

To resume, among the diseases of swine called *swine plague* or *hog cholera*, in America, *schweineseuche* in Germany, *pneumoenteritis* in France, and *swin pest* in Sweden, which are those that must be identified—those that must be distinguished? This is a question which received the most contradictory answers when asked for, in the properties of the microbes, the nature or the localization of the lesions.

These uncertainties were alike when vaccination and immunization were had recourse to. Already, in 1885, Salmon and Smith had succeeded in immunizing pigeons with sterilized cultures—these, in fact, were the first vaccinations made with chemical substances. Billings had also proposed a mode of vaccination that Salmon considered as dangerous; and he seemed right, as Billings, later on, admitted the danger of infection for fresh swine put in contact with animals under state of vaccination; and he went further by recommending that his mode of vaccination should not be applied in localities where the disease was already in existence.

Jeffries (23), after studying two epidemics, agrees with Salmon and sees no reason to identify the two diseases.

In 1889 Salmon publishes, with the collaboration of Smith, a very complete monography (39) of *hog cholera*, where he recognizes two forms of disease—one acute, one chronic (less serious). At post mortem, the acute form is specially characterized by a tumefaction, with hæmorrhage of the various glands and by bloody extravasations of the serous membranes, such as the peritoneum and the pleura. The chronic form, which is the most common, is localized to the large intestines, where necrotic lesions with circular ulcerations, slightly prominent, are found, yellowish or blackish on the surface, with a gray or white bottom. These ulcerations are more or less spread, according to the duration of the disease, and, at times, have a diphtheroid membranous covering. They are localized to the cæcum, to the valves and superior half of the colon, and only in very severe cases do they exist as far as the inferior part of the large intestines.

The microbes of *hog cholera* are especially numerous in the spleen and the liver, then come the lungs and lymphatic glands; they are rare in the blood.

Cultures of gelatine plates give, in forty-eight hours, spherical colonies, well defined, without concentric circles, the superficial being less regular. The injection of 1-400,000 of cc. of culture may kill a rabbit. The microbe preserves its virulency a long time. Damp heat kills it in fifteen minutes at 58-59°, but it resists 80° with dry heat. It stands cold and desiccation, and may live some length of time in water.

The infection takes place through the digestive canal, and, perhaps, by the respiratory apparatus.

Experiments of vaccination by repeated inoculation of very weak doses of cultures, or by ingestion of virulent cultures, or by injection of sterilized cultures have given no positive results. Attempts to attenuate the virulency by heat have decided Salmon to give up that means of vaccination on account of the impossibility to obtain uniform cultures at the same heat. The biological properties, the mobility for instance, are not always constant.

Salmon considers the *swine fever* of English, the Swedo-Danish epidemy, and *pneumoenteritis* of Marseilles as varieties of *hog cholera*.

On the contrary, Racuglia (28, 29) differentiates *swine plague* from the disease of Loeffler-Schutz. By inoculation in the intestine or by ingestion of culture of *swine plague* he obtained a disease resembling dysentery and bringing on death, while the animals had resisted the bacillus of Loeffler-Schutz. This last gave rise to very severe local reaction, while it was scarcely visible after subcutaneous injection of *swine plague*. It seems that the culture of *swine plague* was very virulent, while that of the bacillus of *schweineseuche* was much less. The author also tries to differentiate the two microbes in the morphological point of view, and comes to the conclusion that the diseases are two, and differ by their specific microbe and the localization of the anatomical lesions.

Frosch (20) studies the bacilli of *swine plague* of Billings, of the *hog cholera* of Salmon, of the *Deutsche schweineseuche*, of the chicken cholera, septicæmia of rabbits and other diseases of the same category. For him, especially by the morphological characters, the virulency and the anatomical lesions, he considers the *hog cholera* of Salmon identical with the *swine plague* of Billings.

In 1890, Selander (49) recognizes the microbe of *swine pest* as those of the American *hog cholera* and of the *infectious pneumoenteritis* of the French.

Besides the morphological characters of the bacillus, the author has specially occupied himself with the strengthening

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of its virulency and with the toxine of the *swine pest*. By successive passages by rabbits and by pigeons, he has obtained such a powerful virulency that a very weak dose (0.01-0.25 cc.) injected subcutaneously would kill rabbits in from twelve to fifteen hours. In heating the virulent blood or the culture at 57° for an hour the microbe was killed, but there remained a toxine, which, injected in the vein of the rabbit in dose of 3.5 cc., or 8 cc. under the skin would kill him. Selander admits that this toxine is the cause of death; he succeeded in immunizing rabbits against the microbe, but not against the toxine, with repeated injections of small doses of sterilized blood. The attenuation of virulency obtained by Cornil and Chante-messe in keeping cultures at 43° for thirty days, Selander fails to obtain, as the microbe of *swine pest* dies in twenty-four hours at a temperature of 41-41.8°

In 1891, Smith publishes, under the direction of Salmon, a monography on *swine plague*, analogous to that published two years before on *hog cholera*. Here, again, the differentiation of the two diseases is made specially by the morphological character and the localization of the lesions. In this monography are resumed the previous publications of the two authors, of which I present again the principal points. The microbe of *swine plague* is smaller than that of *hog cholera*, is immobile, resisting less to various agents, grows less abundantly on various grounds of cultures, not at all on potatoes, produces no fermentation of glucosis, no indol; but formed phenol. In the pathogenous point of view, Smith recognizes an acute form, killing the rabbit with a weak dose in sixteen to twenty hours; a sub-acute form which kills in two to seven hours; and a chronic form characterized by infiltration and formation of pus. A point to observe, as we will consider it later on in our own experiments, vaccinated rabbits, after inoculation of virulent cultures, presented the same symptoms of fresh rabbits with the microbe of attenuated form. Among animals at the laboratory, rabbits are the most sensitive to the virus, then come mice, guinea pigs, pigeons and chickens. Pigs are generally refractory to subcutaneous inoculations, but most commonly die after an intravenous or intrathoracic injection.

For Smith, *swine plague* and the *deutsche schweineseuche* are identical; he rightfully remarks that the localization may vary with the mode of infection.

As to the relation existing between the two American diseases, Smith claims that the epidemics, where one of the microbes is found in the state of purity, are the most virulent, while when two microbes are together, neither of them is. He admits that the two diseases often exist in the chronic form, but that an external cause may suddenly be the starting point of a serious epidemic. An attenuated form of the microbe of *swine plague* exists in the saliva of swine and is transmissible without giving rise to the slightest symptom. Smith denies the return to virulency; he admits, however, that, in certain cases where a disease of another kind prevails among swine (ascarids, psorospermics, etc.), an attenuated microbe of *hog cholera* or of *swine plague* may penetrate and develop itself into a weakened organism and make one believe it a true epidemic.(!)

Such are the opinions of the *Bureau of Animal Industry*. The new publication of Salmon and Smith, and those of Billings have left the subject, so to speak, stationary. The vaccination by subcutaneous injection of old culture has given very bad results to Salmon and to Smith, while, according to Billings, the repeated intravenous injection of increased doses of virus would give rise to a greater immunity.

Let us cite also the labors of Welch (50), of Shakespeare (54) and the experimental vaccination against *hog cholera* and against *swine plague* of Schweinitz (49, 47), with chemical substances obtained from cultures. From the fact that guinea pigs immunized against *swine plague* have died with an injection of *hog cholera*, he concluded that the two diseases were different. In a later paper, he relates experiments of serum-therapy; guinea pigs immunized with an injection of albumose extracted from culture of *hog cholera*, have given a serum which granted immunity to others. In a single case, he succeeded in curing a guinea pig with repeated injections made from the second day following the injection of the virus; other animals lasted eight or ten days longer than the wit-

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nesses' animals. One must remark that these experiments were only few and that the virus had but little activity, killing animals only after seven days.

Let us, to finish, mention the contradictory conclusions of Canera (17), of Bunzl-Tedern (15), on the subject of the identity of *swine plague*, *hog cholera*, *swine pest*, the researches of Veranus Alva Moore upon the morphology of the microbes, and then look at the work of Metchnikoff upon the microbe of the French *hog cholera*, who confirmed the results obtained by Selander with the toxine of *swine pest*, and observed that in rabbits, the blood heated produces the same symptoms as the virus. In the serum of vaccinated animals the microbe grows with its normal aspect; the serum likewise has no influence upon the toxine, but it confers immunity against the microbe of *hog cholera* to fresh rabbits when it is injected into veins. Animals recovered by serum do not in their turn furnish a preventive serum. According to the researches of Metchnikoff, the preventive power of a serum is proportionate to the quantity of toxine injected. The preventive serum, acting neither upon the microbe or the toxine, must exercise its influence upon the organisms properly submitted to the treatment.

It is not necessary, I believe, to remark after the above résumé that the study of the diseases of swine known under the names of *hog cholera*, *swine plague*, *swine pest* and of *infectious pneumoenteritis*, is not yet completed. Generally speaking, the identification of the *swine plague* of Billings, of the *hog cholera* of Salmon and of the Swedo-Danish *swine pest* is granted, but the relations existing between the two forms described by Salmon have not yet been sufficiently studied.

To this day, most of the authors have stopped to a comparative study of the morphological characters of the microbes under consideration, of their virulency and of the anatomical lesions found at the post mortem. But the morphological differences existing between the microbes of *swine plague* and *hog cholera* are not thoroughly evident:

1. The dimensions vary according to the age and media of the culture.

2. The mobility of the *hog cholera* may, according to Smith himself, disappear.

3. The generally more active growth of the *hog cholera* diminishes when the microbe becomes more virulent.

4. Salmon and Smith are obliged to distinguish varieties of *hog cholera*, some more saprophyte than others.

To the point of view of the morbid symptoms, the confusion is still greater. Animals dying of *hog cholera* have often, by the deductions of the American authors, pulmonary lesions, and *swine plague* which was localized to the lungs generally occasions also troubles and lesions in the digestive canal.

The fact that the two microbes are often met in a same epidemic is, to say the least, strange. It was necessary, to solve the question, to have recourse to another process of comparison. At present, now that vaccination has entered upon the period of success, it is of high interest to know if animals vaccinated against one of the two diseases were also possessed of immunity towards the other. Von Schweinitz is the only author who, to our knowledge, has experimented in that direction; as we have seen, he differentiates the *swine plague* from *hog cholera* because guinea pigs vaccinated against the first disease did not show themselves refractory to the other. The experiments reported are not very numerous, and, besides, the contrary proof not having been made, it is admissible that the second virus was more active than the first.

On a proposition of Mr. Roux, thanks to the kindness of Mr. Metchnikoff, who gave me cultures of *hog cholera* and of *swine plague* sent by Mr. Smith at the Pasteur Institute, with a number of tubes containing the blood of rabbits dead by the microbe obtained from the epidemic of Gentilly, I undertook to compare these three specific agents.

Before relating my experiments, I desire to express my gratitude to Mr. Roux for the constant interest he has taken in my researches and for his precious advice. I also address my thanks to Mr. Metchnikoff for his numerous indications and his great amiability toward me. I shall begin by the comparative study of the microbes of *swine plague* and of *hog*

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*cholera*, and after that I shall speak of those of the *infectious pneumoenteritis* observed in France. To avoid confusion, I will repeat that it is the question of the two American forms, *hog cholera* and *swine plague*, differentiated by Salmon.

BIOLOGICAL PROPERTIES OF THE MICROBES OF  
SWINE PLAGUE AND HOG CHOLERA.

I have found them about identical with those described by Smith and Salmon.

The microbe of *swine plague* is a coccobacillus, very small, immobile, coloring at both ends with the liqueous solution of Loeffler blue, in its entirety with the violet of gentian and easily taking the aniline color used in bacteriology; it discolors by the method of Gram. On plates of gelatine, the colonies appear only after a few days; they are dark, reticulated in structure in their mass, rounded and with more or less defined borders. Ensemenced in striæ upon gelosis, the microbe of *swine plague* gives, after twenty-four hours, round colonies, well defined, of various diameters, shying by transparency with a strong light, very often they are united. Culture in a meat bouillon, as well as in alkaline peptonized water, becomes cloudy usually in twenty-four hours; this is often slight and the liquid appears then opalescent. After a few days, a deposit takes place at the bottom of the ballon of culture, and little by little the bouillon returns clear; the liquid is once again limpid after about three weeks; the precipitate becomes manifest in shaking the ballon. There is no formation of invol; the reaction with the nitrite of potash, after adding a few drops of sulphuric acid, has only by exception given a very slight coloration in old cultures, never in those of a few days. Culture with glucosed bouillon and addition of carbonate of lime has not given rise to the formation of gas. Repeated sowings on potatoes have not given apparent cultures. The microbe of *swine plague* does not coagulate milk.

At first sight the microbe of *hog cholera* is easily distinguished from the preceding. It also is a coccobacillus, but with rather large dimensions. Its mobility, absent in culture on solid media, did not appear to me so evident in liquid cultures. I have failed to color its ciliæ.

Upon plates of gelatine the colonies readily appear in 24 or 48 hours. With the exception of the more rapid development they do not offer well-marked differential characters from the *swine plague*; they are generally clearer, rounded, with more regular borders. There is no liquefaction. Upon gelosis the culture is much more apparent, thicker than that of the *swine plague*; the larger colonies have a more whitish, shying, creamy aspect. The bouillon clouds move, and at times present a little foaming band (collarete), which has also been seen on the surface of the liquid in some cultures of *swine plague*. Peptonized water gives an analogous culture. There is no indol formation in young cultures. In glucosed bouillon the culture made with a little carbonate of lime has regularly given rise, after 24 or 48 hours, to a great formation of gas, and the quantity of carbonate of lime in the solution was greater than in the witness tube. The culture upon potatoes is very abundant; yellowish first, it soon appears under the form of a shying thick brown crust. As with *swine plague*, milk is not coagulated by the culture of the microbe of *hog cholera*.

In the blood the two microbes present generally the same aspect as in the culture. They have seemed to me of dimensions somewhat larger and often by couples. In cases of rapid death their number is much larger than that of the corpuscles of the blood.

For *hog cholera* the growth in striæ upon gelosis is specially abundant when successive cultures are made; if, on the contrary, one passes the animal several times without having recourse to the culture, the first sowing upon artificial media gives a culture less well filled than ordinarily and resembling that of *swine plague*. In proceeding in the same way with *swine plague*, I have failed, after several injections of virulent blood, to obtain a trace of culture with a blood very rich with microbes. The colonies became apparent when I had covered the surface of the gelosis with a little of the blood.

As to the resistance of the two microbes to various agents, I can confirm the data of the American authors.

The cultures and the virulent blood are sterile after being exposed from one hour to an hour and a half to the temperature of  $58^{\circ}$  in a water bottle. I name a length of time a little longer, because I have sometimes obtained cultures of *hog cholera* in sowing blood rich in clots, sterilized at  $58^{\circ}$  in half an hour. On this occasion I have observed that *hog cholera* resists heat more than *swine plague*.

The sterilization with thymic acid is very simple; it is sufficient to place several small crystals of thymol in a tube filled with virulent blood. The microbes are destroyed after a length of time, which varies, and here again *hog cholera* has resisted longer (three weeks to one month), while the microbe of *swine plague* was destroyed after eight to fifteen days of contact. I have also obtained the complete sterilization of the blood of *swine plague* by adding ten drops of a solution of formic aldehyd. at 2 per cent. of 10 cc. of liquid.

As for the vitality of the cultures, an ensemenced bouillon which keeps to the eture for more than three months is generally sterile. Upon gelosis the survie seems to last longer, an abundant culture of *hog cholera* more than ten months old having furnished a virulent culture with a new planting. Preserved in drawn glass tubes, closed with the lamp, away from the light, the microbes remain alive and virulent for a much longer length of time. A drop of blood of *swine plague*, kept for eleven months, has killed a mouse in twenty-four hours; the blood from her heart has given abundant culture.

From what precedes, the two microbes that I have examined can be differentiated morphologically by the following characters: the bacillus of *hog cholera* presents, as compared with that of *swine plague*, viz.: First, larger dimensions. Second, a more rapid growth upon gelatine and a more abundant culture upon gelosis. Third, the growth upon potatoes. Fourth, the formation of gas in culture of glucosed bouillon in connection with chloride of lime. Fifth, a greater resistance to physical and chemical agents. The three last characters are the most important.

## PATHOGENIC PROPERTIES OF THE TWO MICROBES.

Both microbes have proved pathogenic for the rabbit, the guinea pig, the mouse and the pigeon. My experiments were principally made with rabbits.

The microbe of *swine plague* has been very virulent from the start. A subcutaneous or intravenous injection of one-tenth to one-fortieth cc. of culture killed the rabbit, sure; two pigeons died, one in eighteen, the other in thirty-six hours after receiving one-half and three-tenths cc. under the skin.

The intravenous injection of one-half cc. of culture or of blood killed the rabbit in five to ten hours; subcutaneous injections of one-twentieth cc. brought on death in twenty-four hours. In no case have rabbits survived the weakest dose.

The virulency of the microbe of *hog cholera* was less, especially in my first experiment. The intravenous or subcutaneous injection of one cc. of culture did kill the rabbit only in the space of time varying between thirty-six and ninety hours. The pigeon died in two to ten days with that same dose of one cc.; in a few cases they survived weak doses, less than half cc., but lost a great deal of flesh. The successive passages by rabbit blood did not sensibly increase the virulency. The method of Selander succeeds better. I have, in injecting the crushed spleen of animals dying of *hog cholera*, after being kept several hours within an eture in a flammed glass, killed rabbits in six hours and a half, seven hours and a half and eight hours. But, like in *swine plague*, this virulency diminished as soon as I stopped the passages with the spleen, and I had to use the same process over several times. I thus succeeded in obtaining a virulency almost always the same and as great as that of *swine plague*, especially in injecting directly into the blood; one-twentieth and one-half cc. injected under the skin would produce death in less than twenty-four hours.

The guinea pig dies in one or two days after an injection of one to three-tenths cc. of virulent blood under the skin. *Swine plague* seemed to act a little quicker than *hog cholera*.



Mice die in twenty-four hours after injection of one-twentieth cc. of blood of *swine plague*, and resists from one to three days longer than that of *hog cholera*.

(*To be continued.*)

## EXPERIMENTAL PATHOLOGY.

### RESISTANCE OF THE RED GLOBULES OF THE BLOOD ON ANIMALS OPERATED BY THYROIDECTOMY.

By BOTTAZGI.

Thyroidectomized dogs, and, especially those which have the classic cachexia, live some fifteen days; there is in the beginning an increase of the resistance of the hematics, due probably to the destruction of the weakest elements. Later, when the dogs have convulsions, clonic and tonic spasms with shiverings, the resistance diminishes some, on account of the muscular efforts and the respiratory insufficiency, and again on account of the alteration of the organic metabolism following the operation. This diminution in the resistance is not to be compared to that due to the action of the toxic of the blood; these toxics, which are formed in the strumiprivarous cachexia, have a lesser action upon the blood. The resistance of the red corpuscles varies with the breeds of dogs. In dogs that are kept fastened, the diminution of globular resistance appears after the first week, and becomes more and more marked until the twelfth day of the fast.—*Revue des Sc. Med.*

### SOME OF THE EFFECTS OF THYROIDECTOMY ON ANIMALS.

By J. L. SMITH.

In some animals, cats and dogs, the operation has for results rapid symptoms of irritation of the nervous and muscular systems, followed most commonly by death. And again, in man than monkeys, the accidents are slower in their manifestations as those of myxedema. There is a great variety of effects in the different species, and even in the same species. There is, however, a general type with a more or less marked degree. 1. For instance, a muscular shivering when the ani-

mal makes a voluntary effort, then it is spontaneous and intermittent, and then continues with spasms connected with the obtusion of the animal, and then convulsions and death. 2. In the chronic state, one does not observe the influence of the regim as observed in acute cases by Breisacher. 3. The development of the symptoms has no marked influence upon the excretion of the carbonic acid. 4. The lowering of the temperature does not bring on an elevation in the excretion of the carbonic acid as it normally happens. 5. The thermic production varies much more than in the normal animal. But it is especially the apparatus of thermic production which is altered. There are vascular modifications of the skin; the ears of the cat are at times congested, at others anæmic. These vascular changes are somewhat similar to those of the strumiprivarous cachexia. The second cause is the alteration of the skin, the dropping of the hair. The alteration of the skin and the lowering of the temperature belong also both to the cachexia, which are wanted in cats. The fact to be obliged to regulate the temperature only by means of the productive apparatus must bring a consumption. Patients suffering with myxedema always complain of cold. And again, extreme heat is as insupportable to them as cold. The role of the thyroid in the thermic regulation is but one of the aspects of its general action, and this is only indirect.—*Ibid.*

#### OF THE ABSORPTION OF MICRO-ORGANISMS BY FRESH WOUNDS.

By C. SCHIMMELBUSCH.

The author has made experiments to study the possibility of disinfecting a recent wound made on an animal and artificially infected. He failed, no matter what means of disinfection he used, he could not succeed in protecting a rat or a rabbit from general infection when he infected a recent wound with the pus of anthrax or the septicæmic streptococcus.

Trying to find the cause of these failures, Schimmelbusch observed that the germs entered so rapidly in the blood that, even on operating on the tail of an animal and cutting it off five minutes after the infection, yet the germs were already in the general circulation.

Then, in a new series of experiments, he succeeded in finding that, either with pathogenous germs, such as the microbe of anthrax, or with the saprophytes, such as the pyocyanic bacillus, one could, one half hour after the infection of the wound, find the germs in the principal internal organs such as the liver, heart or kidneys. The pyocyanic bacillus takes less than five minutes to reach from the wound to the internal organs.

These facts explain the uselessness of amputation after carbuncular infection in rats, and besides they agree with what is already known of the rapidity of motion of fatty embolics which require less than five minutes to reach from the medullary cavity of a bone to the heart or the lungs.—*Ibid.*

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## THERAPEUTIC REVIEW.

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### LOCAL TREATMENT OF ACTINOMYCOSIS.

In the *Wochenschrift fur Thierheilkunde*, Mr. Gruen recommends in the local treatment of actinomycotic tumors the injections of the solution of Lugol, made with iodine crystall. 1 part, iodide of potassium 5, distilled water 100. With a syringe of Lavay, 100 or 200 grammes are injected once in various parts of growth and repeated once or twice a few days later.

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### PHLEGMONOUS METRITIS OF COWS.

Wegered recommends the use of the solution of Lugol internally or in intra-uterine injections, especially these last, made by the veterinarian, who must only be certain that the fluid is properly introduced in the uterus, and not in the vagina.

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### ANTI-MILKING EFFECTS OF BELLADONNA.

Plasters or frictions of belladonna ointment made upon the mammæ of females upon which the milky secretion is too abundant or is to be stopped, have proved very beneficial. They are also recommended in cases of mammitis, especially where it is threatening suppuration.

## ARECA POWDER AS A VERMIFUGE.

Take of fresh areca nut 2 to 8 grammes and 10 to 20 grammes of soluble cream of tartar, mix and give in the morning on an empty stomach, the animal having had but little milk the day before.

This is recommended by Mr. Pellipard against the tæniae and the ascarides.

## CALOMEL INSTEAD OF IODOFORM.

Mr. Percacini prefers calomel in the dressing of all kinds of wounds and ulcers, as also for treatment of rebellious eczema. Its application is followed by the formation of an antiseptic scab which, when it drops off, leaves a healthy granulating surface and not uncommonly a complete cicatrization.

## FOLLICULAR MANGE.

One of the most rebellious cutaneous affections which so often baffle the skill of the practitioner and wears out his therapeutic arsenal is the demodectic mange of dog. An Italian veterinarian, Mr. Galli Valerio, recommends the following ointment: Naphtol B. 10 grammes, sulphur. sublimate 50, green soap and pure grease, of each 25 grammes. A friction is applied daily over all diseased parts carefully, watching all new patches of extension. The treatment is generally long.

## DEONTOLOGY.

## CONSULTATIONS IN VETERINARY PRACTICE.

By E. WALLIS HOARE, F.R.C.V.S., CORK.\*

It has often been a matter for surprise that so few consultations are held among veterinary surgeons. Many reasons might be adduced to account for this, among which the commercial value of the patients would occupy a prominent position. This element, which figures so conspicuously in

\*From Veterinary Record for July 27.

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veterinary practice, is without doubt a great drawback in many instances.

In human medicine it does not hold good, for if a case is incurable, no skill or expense is spared to prolong the life of the patient, and the practitioner gains credit for his efforts in this direction. But with us the case is very different, and unless our patient is restored to practical utility, all our efforts are not appreciated, and the owner will freely admit that it would have been better if the animal died at the outset of the disease and so saved him expense and trouble. Indeed in many instances we find that it is difficult to obtain fair remuneration in cases where the patients die after an illness, either long or short, and in a country district this fact is greatly intensified.

Under such circumstances it is clear that where one practitioner finds it difficult to obtain remuneration for his attendance and medicines, it would be impossible to expect the owner to pay for a consultant. And yet there is no calling in life, in which the adage "Two heads are better than one" could be more appropriately applied than in veterinary practice. The obscurity of symptoms, the difficulties of diagnosis, and the varieties of patients and of diseases, render the advice and assistance of the consultant of supreme importance. And in surgical cases similar remarks would apply with equal force, whether the consultant be a senior or a junior.

But it is apparent that there are other reasons for the paucity of consultations, and chief among these we must place the want of observance of the ordinary rules of professional ethics which we so frequently notice among practitioners. In many instances the consultant endeavors to demonstrate his superiority over the attending practitioner. If he be a senior and holding a high reputation, then he will make a hurried diagnosis, of course differing widely from that of the attendant, and as a result a different line of treatment is ordered. If an error has been committed in the first instance, no attempt is made to conceal it, and it is either blurted out before the owner and his groom, or, what is far worse, told to

the former privately. But frequently no error in judgment has occurred, and still the consultant must differ in opinion from the attendant in order to gain favor with the client.

It certainly is amusing in some cases to observe the extent to which this diversity of opinion is carried. If the attendant is treating a wound with dry antiseptic dressings, the consultant will order poultices. If poultices have been used in the first instance, then they are rapidly condemned, and strict antiseptic measures prescribed, not forgetting any amount of probing, etc., and a display of antiseptic solutions and different dressings to catch the eye of the client. If hot applications are being applied they are changed to cold and *vice versa*. If the attendant has enjoined strict rest for the patient, the consultant will order exercise and *vice versa*.

But it is in cases of obscure disease that the consultant has the best chance of showing his superior knowledge. Perhaps the attendant has very properly given a guarded diagnosis after a careful examination of the patient; the consultant has hardly entered the stall before he gives a blunt opinion, no doubt or difficulty exists in his mind as to the nature of the case or its proper treatment. Of course this is bound to be different from that given by the attendant, and with the result that the consultant is put down by the client as being a very clever man, "knows what is wrong with a horse as soon as he looks at him" is what we are often told.

If the patient lives the consultant gets the credit, and in all probability the client in addition. But if the patient dies and an autopsy is held, a very different state of affairs comes to light and the man who indulges in "bluff" or "lightning diagnosis" is shown up in his true colors.

Similar remarks would apply to cases of lameness. Here the consultant has great scope, because he sees the result of the attendant's treatment, and his opinion of course will vary according to the original diagnosis. If the horse goes sound ultimately, it is the consultant that cured him, and no credit is given to the power of nature or the influence of rest.

Can we wonder why veterinary surgeons dislike consultations and only have recourse to them at the express wish of

their clients? If, in our profession, the ordinary rules of medical ethics were adopted and followed, consultations would be far more frequent with manifest advantage to patients, clients and practitioners. We must confess that there is a marked absence of that *esprit de corps* which should exist among members of the same profession. How frequently we hear one veterinary surgeon holding up his brother practitioner to ridicule in public places, and taking a delight in describing the errors and ignorance of the latter. Not that it enhances the reputation of the would-be judge, critic, and sometimes slanderer, with educated people; often it has the opposite effect. But the intention is always evident, viz., self-laudation, and jealousy, and the keener the competition, the greater the amount of this un-professional element which is introduced.

No doubt there are many who will deny the frequency of such occurrences as the above, and who imagine that professional etiquette is advancing with the other improvements in our calling. Unfortunately we are only too familiar with gross breaches of etiquette, not involuntary, but deliberate; and when one practitioner goes out of his way to injure the reputation of another and evinces an utter disregard for truth in his statements, we are forced to the conclusion that a code of moral and professional ethics is urgently needed by veterinary surgeons. We know how careful the members of the medical profession are in this respect, and how in consultations as well as in all professional matters the rules of etiquette are strictly observed. In the veterinary profession there is ample room for reformation in this respect, and if strict etiquette were observed we would find that clients would seldom ask one practitioner to attend a case which at the same time was under the care of another, without informing the latter. But the public are often keen observers, and when they see that veterinary surgeons themselves disregard the ordinary rules of etiquette, instead of asking for a consultation, they prefer to transfer the case to another practitioner if it is not progressing in a satisfactory manner.

The remedy is in the hands of members of the profession,

if they desire to act towards one another as professional men should do. Of course competition interferes with the observance of ethics, and the survival of the fittest is the order of the day. But if the profession is to advance and hold its proper place in the scientific world, its members must observe the ordinary rules of etiquette, and encourage consultations while endeavoring to cultivate a proper *esprit de corps*. The adverse criticism of the public we cannot always avoid, but by adhering to the motto *Vis unita fortior* we can afford to treat it lightly.

### REPORTS OF CASES.

#### EXTENSIVE FRACTURE OF THE CRANIUM, WITH A VERY SLIGHT INTERFERENCE WITH FUNCTION.

By BERNARD GUNTHER, Student of the American Veterinary College.

Like every student attending college, I was very desirous upon the close of the '94-'95 session to receive a little practical knowledge by going around with a doctor until the season of '95-'96 would open up again, to receive further tuition in this great science. In due time I was accorded the privilege of seeing the sick and disabled animals, by Dr. Roscoe R. Bell, D.V. S., of Brooklyn, with whom I have had the pleasure of studying a great many peculiar cases, but the one I am about to narrate is, perhaps, the most interesting one, and it is safe to say that it will be a long time until we meet another like it.

The subject of this sketch was a green five-year old chestnut mare, which had landed from the West two months prior to this history; had been sold by a dealer, and not being paid for, was taken back and shown to the doctor's client, with the intention of selling. He had her on trial for three days, and finding her satisfactory in driving and deportment, brought her to Dr. Bell for an opinion as to her soundness. She received a careful examination at rest and in motion, and beyond the fact that the lower lid of the right eye was tumefied and weeping, no objection was found with her. This



was regarded as simple conjunctivitis, due to cold or to slight traumatism; but, as the eyeball and its structures were apparently healthy, and as her price was reasonable, the client was advised to purchase and take the slight risk, which was regarded as trifling. When he had owned her for a week he sent for the doctor, as she was feeding poorly, and, upon observing her manner of eating, the difficulty was found to be that she could not crush the food. She would seize a mouthful of hay, for instance, roll it about in her mouth, make one or two attempts to masticate it, and then allow it to drop out of her mouth as though the attempt had caused her much pain. Her teeth were examined and found normal, but the temporal fossæ was swollen, and extreme tenderness upon pressure over the temporo-maxillary articulation. A diagnosis of synovitis of this joint was made, and anodyne treatment prescribed. The symptoms as described persisted, with slight exacerbations and improvement for about three weeks, when an urgent call was received, with the statement that the animal was found in the condition that she was then in. On entering the stable that morning we found her standing in her stall with her muzzle touching upon the floor. On backing her she rushed back to the rear wall and nearly fell. Taking her into the yard she staggered, fought the air with her front feet and appeared to have lost the power of co-ordination, reeling about and finally falling, where she lay in a half comatose condition. Pulse and temperature about normal. The owner was advised to have her destroyed and her head removed for examination. The skin was dissected from the head, and a small tumor which she showed on the right side of the parietal bone was cut into and found to be a callous, with gritty bone distributed through its substance. A space the size of a silver dollar was entirely devoid of bone, and when the callous was removed the brain was clearly visible, and it is evident that there had existed a comminuted fracture at this point, and that the bone was being absorbed by the inflammatory action. Inserting a finger into this opening a comminuted complete fracture could be easily felt, running down in the di-

resection of the zygomatic arch. Removing more of the tissue it was found that this immense fracture included the whole of the parietal bone on the right side, the temporal and articulating surface of the temporal bone, the styloid process of the occipital and the supra-orbital foramen, making a complete comminuted fracture of about eight inches in length. Before removing the inferior maxilla, the lower jaw was manipulated, which produced great displacement of the fragments and much pressure upon the substance of the brain, each lateral motion causing the brain to protrude through the large opening in the parietal by flattening of the cranial wall.

It was intended to have had the head boiled and a photograph taken of the bones, but in the process the small portions became so detached and pulpy that the effort was defeated.

There exists no doubt that this fracture occurred a considerable time previous to Dr. Bell's inspection of the horse; that the conjunctivitis was directly dependent upon it, as it grew worse as the case progressed, and that this mare, with her skull crushed, with a fracture through the temporo-maxillary articulation, and with great pressure upon the brain, performed work, deported herself properly, and contained her secret while the purchaser and his veterinarian looked on and called her healthy. It is certainly unique, and bears out the adage that in lesions of the brain none are so extensive that recovery may not take place, and none so trivial that death may not be occasioned.

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#### TRIKRESOL AND ITS EFFECT IN THE "MANGE."\*

BY HUGO ENGEL, M.D., Philadelphia, Pa.

Although many drugs have been tried as substitutes for carbolic acid—as its poisonous character and the irritation produced by it makes its general employment objectionable—yet this coal tar derivative still maintains its place as a surgical dressing. Corrosive sublimate ruins the instruments, is

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\*From the *Medical Summary*.

too poisonous, decomposes rapidly when in contact with vegetable matter, and as a bacillicide its value becomes almost *nil* in the presence of solutions containing albumen.

Formalin is a powerful disinfectant, but because of its precipitating paraformalin, when evaporated or sprinkled by aid of an atomizer, its main use seems to be in the disinfection of rooms, closets, clothing, etc., and here it has no equal—apparently there being nothing in existence that can impair its powerful bactericide properties.

In seeking after a coal tar derivative that, while stronger than carbolic acid, yet would be less poisonous, Prof. Frankel, of Marburg, five years ago, drew attention to the cresols. In the so-called 100 per cent. crude carbolic acid the most efficient principles to which its anti-microbic action is due are not the phenols, but the cresols. It would seem, to the initiated, that all that is necessary would be the isolation of the latter, but they possess one great disadvantage: they are but sparingly soluble. But manufacturers at once made the laudable attempt to obtain pure and soluble cresols, but these attempts resulted only in the impure productions of such substances as creolin, lysol, etc., due to a combination of the cresols with soap, neutral oil, pyridine, naphthalene, etc.

Recently Schering, in Berlin, succeeded in producing a pure and soluble cresol. There are three cresols to which the antiseptic properties of crude carbolic acid are due: ortho-meta and para-cresol, which when isolated and pure are much easier soluble.

This new remedy, a combination of the three efficient cresols, is *trikresol*. It forms a clear, colorless liquid of a penetrating creosote-like odor, and is soluble in cold water in the proportion of 2:100; the solution remaining colorless. Besides its powerful bactericide effect it has the following invaluable properties: it does not attack metals, so that surgical instruments are not injured by it; vegetable fabrics are not discolored by it; it does not produce a slippery condition of the hands when wet with it; it is three times as powerful as carbolic acid; it is comparatively non-toxic and never creates the numb feeling in the fingers, which has been

found so objectionable in carbolic acid. A one per cent. solution of trikresol in water kills the pus-producing micrococcus aureas with certainty in half a minute, a one half per cent. solution does the same in ten to twelve minutes, while it destroys the cholera vibrio in one to two minutes.

A one per cent. solution (a full teaspoonful, though more accurate seventy-seven minims of trikresol to one pint of water) is the most useful one; for many cases a one half per cent. solution answers; a one quarter per cent. solution is employed for inhalation, and to disinfect rooms, etc., and a two per cent. solution should be used in an atomizer. I have noticed frequently that the so called "mange," a skin disease which is very common to dogs, attacked the latter whenever their kennels or whatever places they live in were damp. Though sulphur internally accelerates the cure, disinfectants locally applied always seemed to me from the very nature of the disease the proper treatment. Whoever has owned a St. Bernard dog will know that it is almost impossible to keep them from wet places, if such are near them. I have a beautiful dog of that breed of a size enormous even for such an animal. But when after a rain or from other causes the ground is damp he will leave his dry kennel and selecting the wettest place rest himself there. Though he receives his baths regularly, I had long feared that he would contract some disease from this inveterate habit of his. His hair began to fall out in places and he evidently suffered from the mange. As a test I prepared a two per cent. solution of trikresol in water and poured the same for a week all over the large yard, especially on the places the dog seemed to prefer. By the aid of an atomizer the same solution was sprinkled all around his kennel. In four days all the places on the underside of his body, where a St. Bernard dog has but very little and smooth hair, had commenced to heal, but three large spots on his back remained in the same state as before; the hair had fallen out and the skin looked like in a case of moist eczema in a human being. I now washed the places with a one per cent. solution of trikresol and had the satisfaction within twenty-four hours to observe that all

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inflammation had disappeared ; the parts had lost their redness and all moisture had ceased. A few days later a fine growth of hair was beginning once more to protect the skin. The dog had not received one dose of sulphur or any internal treatment whatever.

The case proves two things : first that the mange is a local infectious disease of the skin ; and secondly, that trikresol in one and two per cent. solutions is one of the most powerful disinfectants known. The itching, from which the dog suffered severely, completely ceased immediately after the local application ; the weeping of the skin stopped almost as abruptly, and within a few hours the powerful effect of the drug was visible in the greatly diminished redness and the healthier appearance of the skin. I have observed no irritation whatever from the use of trikresol.

The disease is very common among dogs, and most of them suffer for weeks and months from the torturing complaint. I say torturing, because it seems to be accompanied by an intolerable itching. Newfoundland and St. Bernard dogs, English setters, in fact all dogs possessing thick hair are most affected. I have never known the disease to have been cured thus rapidly, and as the treatment is easily carried out, and its expenses are almost *nihil*, it may be well to give trikresol a more extensive trial.

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## EXTRACTS FROM EXCHANGES.

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### FRENCH REVIEW.

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#### ACUTE ALCOHOLISM AMONG DOMESTIC ANIMALS.

By MR. R. BISSAUGE.

In one of the numbers of the *Recueil* the author records several cases of this affection, which, though rare among animals, may sometimes give rise to severe manifestations and even end fatally. These cases show that the susceptibility of animals to the effects of alcohol varies according to the species and to the nature of the liquid received.

A cow which after calving had a slight prolapsus of the vagina and of the rectum, received, after reduction of the complication, a series of drinks of strong brandy, measuring altogether about three quarts (3 litres).

From that time she acted as crazy; she was violently agitated, striking her abdomen with the hind legs, eyes staring, excess of convulsive motions of the fore arms and thighs, abundant foaming salivation, mucous membranes injected, respiration accelerated, breath with alcoholic odor, heart bouncing in the chest, etc. This was followed after several hours by a comatose condition, which ultimately ended in death, notwithstanding the treatment, which consisted of bleeding, frictions, with the internal administration of acetate of ammonia, coffee, tincture of nux vomica. With little local exceptions the post mortem failed to show any specific lesions except the very strong alcoholic odor perceived in all the tissues.

A horse having some colicky symptoms, which seem to pass off by moderate exercise, when the owner is advised to give him a mixture of absinthe and white wine. About five ounces of the absinthe mixed with a pint of wine is then administered. Some fifteen minutes after the horse is agitated, uneasy, has spasms through the large muscular masses, his gait is unsteady and he drops down as paralyzed. When down he seems sound asleep; the pulse is small and weak, the breathing labored, the eyes injected; he requires severe punishment to make him get up and when in standing position his equilibrium is very unsteady. Treatment, frictions, blanketing him warm, acetate of ammonia, coffee, citrate of caffeine. Recovery.

A young terrier pup to be kept very small receives a half a teaspoonful of cognac in a small quantity of milk. After twelve days of this treatment this little dog, from active, lively and good health becomes dull, of stupid appearance, loses his appetite, has great thirst. His walk is uncertain, eyes drawn in the orbit, eyelids swollen. The alcohol is stopped, the little fellow placed under tonic treatment, in six days has recuperated and is entirely cured in two weeks. A month

later his owner began over again the alcoholic regimen, which is in a few days followed with the same effects as before, and those are removed by merely the suppression of the alcohol and the administration of black coffee.

Another pup, four months old, in a spasm of epilepsy, received a pony of pure brandy. He died in ten minutes, showing at the post mortem no lesions to explain the sudden death, except in the stomach, which is highly congested, contained the whole glass of brandy. A few ascarids in the intestines explained the epileptiform symptoms.

In fowls, the effects of alcohol are not so rare; but they are not so frequently fatal. In one instance, however, Mr. Bissauge observed the death of seven animals—six hens and a duck—which had partaken too freely of a meal of cherries preserved in brandy which had been thrown to them because they were old and somewhat fermented.—*Rec. de Med. Vet.*

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ACUTE ENCEPHALITIS TREATED WITH PILOCARPINE—  
RECOVERY.

By MR. P. MASSA.

A twelve-year-old mare presented symptoms of incipient cerebral congestion for which she is treated by the administration of aloes, sinapisms under the abdomen, mustard frictions on the neck and extremities. During the night she had epileptiform attacks, the eyes are fixed and staring, the jaws contracted, pulse accelerated, temperature 38°. 8. A seton is placed on the sides of the neck and ten centigrams of chlorohydrate of pilocarpine injected subcutaneously. During the day she had another severe attack and seems in a very bad condition. She pushes her head against the wall of her stall, her respiration is very labored, the pulse accelerated and the temperature has raised to 39°. 6. She has another injection of pilocarpine (20 centigrams). The next day the symptoms are less marked. A third injection of ten centigrams is made. From this day the improvement continues, and with the administration of bromide of sodium soon enters upon convalescence.—*Ibid.*

## ATHEROMATOUS CYST OF THE SEPTUM NASI.

By MR. SCHARENBERGER.

This case is interesting on account of the long treatment which is required to obtain a recovery. The animal in question has on the left side of the septum, at about an inch from the superior border and back of the nasal cartilages, a cyst as big as a hazel nut, spheroidal, smooth, painless and having on its center a small opening from which runs a brownish colloid matter. On pressure, the fingers receive the sensation of a kind of crepitation, which indicates that in the tumor there are hard, irregular, granular little masses, like small gravel.

The treatment lasted nearly four months. First, free incision of the cyst and dressing with solution of boric acid was carried out, but without results. The same discharge and the formation of the same little yellowish irregular crystals continuing, with increase in the dimensions of the cyst.

Then the treatment was modified by the application of a piece of cotton saturated with tincture of iodine, pressed for several minutes in the cavity of the neoplasm. No change. It was then that it was decided to modify the inflammatory process and bring it to a more acute condition. This was obtained by the removal from the cyst cavity of all cretaceous substances and the cauterization with the red iron of the entire areolar structure which lined the cyst. By this treatment a new repairing was soon established, granulations of a healthy nature sprung out, being kept under control with nitrate of silver, and the cicatrix was completed with a slight induration of the nasal membrane where the primitive cyst existed.—*Ibid.*

## FOREIGN BODIES IN THE OESOPHAGUS OF SWINE.

By M. P. MOULIS.

After recording the general symptoms presented by swine whose oesophagus contains a foreign body that cannot be vomited by the animal, and insisting upon the intelligent desire and manner with which the animal takes a large quantity of water with wide laps so as to wash his organ, which he



fails to do, the author considers the modes of treatment which are generally put to use without result, such as the taxis and the probang, and in conclusion recommends the use of apomorphine in subcutaneous injections in the dose of five centigrammes. The injection is followed by the expulsion of the foreign substance in a few minutes.—*Ibid.*

#### COMMUNITIVE FRACTURE OF THE LOWER MAXILLARY.

By MR. L. COLIN.

Fractures of the bones towards the body are not uncommon, but those located in the part as seen by the author are unusual, except on special conditions such as in osteoporosis.

The animal in question was losing flesh for some time, and presented a large, hard and very painful swelling in front of the parotid. Attempts to operate on and empty the abscess, which was considered as the cause of the trouble, proving unsuccessful, the animal was ultimately destroyed, and a fracture of the lower maxillary exposed at the post mortem. The lesion was comminutive, and extended from the coronoid process crosswise to near the last molar. There were three loose pieces necrosed and the border of the maxillary was softened and of a green color. Above the principal region there was a large purulent cyst.—*Ibid.*

#### ON THE USE OF MALLEINE.

By MR. FREDERIKSE.

The result of an investigation made on army horses is reported by the author, presenting conclusions of great interest to those who might be called to apply the malleine test in a large number of horses. His conclusions are as follows: 1st, injections of malleine must be recommended not only in cases of occult glanders, but also in certain cases where the classical symptoms are missing. It is the best and surest means to recognize the disease by making an early diagnosis and prevent its spreading.

In sound horses it produces *little or no* reaction, and it is perfectly harmless. (Some obscure points remain yet to be

elucidated in relation to the difference in the intensity of the first, second or third injection.)

2d. In cases of glanders malleine gives rise to a reaction even if the disease is but slightly advanced, reaction consisting principally in a thermic elevation of two degrees, with more or less large swellings. Generally there are also symptoms of organic reaction, though not always present. When the disease is advanced they are well marked.

3d. To decide if glanders exists or not, one must consider "(a) the duration of the elevation; that is, if it lasts more than thirty-four hours. In cases where the disease exists positively the thermic elevation lasts not only thirty-four hours, but much longer. (b) The thermic *curvature* is typical in form, viz., when the rapid rising is followed by very slow downward motion, intermixed with one or more risings."

4th. When the thermometer has risen two degrees and more, or when the temperature has returned to the normal after thirty-four hours, especially if the dropping has been regular, one must be careful before destroying the animal. Other injections are advisable.

5th. In cases of reaction it is prudent to continue the thermometric observations until the fifty-eighth hour after the injection. To judge well of the more or less typical progress of the reaction one must make his observations every hour and a half, after from six to ten hours following the injection.

6th. If the swelling, with or without lymphatic cords, exists after and more than thirty-four hours, it is, with the typical thermic curvature, another evidence of the presence of the disease.

7th. An increase in the frequency of the pulse and of the respiration, with a large local reaction only, will not be sufficient to conclude as to the presence of glanders.

8th. Horses in which the thermometer rises only one and a half degree can be considered as healthy; those from that to two degrees must be regarded as suspects and be submitted to a second or third injection.

9th. One must be cautious when animals are feverish, as then they react less to malleine even when they are affected with severe glanders. In those cases it is better to postpone the injection; if the fever still continues and the malleine is used, less importance will be attached to the variations of the temperature; but, on the contrary, the general symptoms will be so much more marked as the disease will be more advanced.

10th. Ordinarily, at the second injection, the local lesion at the point of injection is always more marked than at the first.

11th. Horses that have been turned out must be kept at least two days in a stable before being submitted to the malleine test.—*Ibid.*

#### TWO CASES OF TUBERCULOSIS IN SWINE.

By Mr. ED. NIEL.

In two animals, respectively seven and eight months old, lesions found at the slaughter-houses justified the author in preventing the carcasses from being used for general consumption, and though the bacteriological examination of the organs was not made, the characters were sufficiently developed to warrant his report.

In one animal the spleen was much hypertrophied, its surface irregular, bosselated, and covered with numerous tubercles containing a yellowish caseous substance. The bronchial glands are enlarged, as well as those of the stomach and mesentery. Lungs and pleura free.

In the other a well-marked generalized pulmonary tuberculosis, in which the lungs are covered with greyish nodules which contained a yellowish substance. The axillary, mediastinal and bronchial glands are hypertrophied. The liver and the spleen show a few isolated small tubercles. The inguinal and sublumbar glands are congested.—*Ibid.*

#### SURGICAL TREATMENT OF CHRONIC SYNOVITIS.

By Prof. J. N. RIES.

The surgical treatment of chronic synovitis, which in days gone by was considered so dangerous, has lost its severity

with the careful application of antiseptic dressing. The author reports two cases where the dropsical condition of the synovia was relieved by free incisions of the sacs, cleaning of the serous membrane with the curette and the use of carefully applied antiseptic dressing. In one case an animal very lame and deformed for several months by enormous wind-galls of the off hind leg, was entirely relieved by this form of treatment in a comparatively short time; and another suffering with a congenital synovial dropsy of the anterior extensor of the phalanges was allowed to resume work in a few days. The conclusions of the author are that tendinous synovial sacs can be opened with impunity, their cavities scraped thoroughly with the curette and complete occlusion obtained, and be perfectly compatible with a certain regularity of action, allowing the perfect use of animals, providing proper antiseptic measures are taken.—*Ibid.*

#### GERMAN REVIEW.

By W. V. BIESER, D.V.S.

#### CLINICAL EXPERIENCES IN THE CURE OF CANCER WITH CANCER SERUM (ERYSIPELAS SERUM).

Physicians at the present day, as well as those one thousand years ago, place cancer at the head of the list of incurable diseases. Men like Billroth and Gusserou admit their inability to cope with this disease. But, thanks to the indefatigable efforts of Emmerich and Scholl, the period for the successful treatment of cancer seems to have arrived.

On the basis of observations made by Busch, Bruns, etc., it seems that intercurrent attacks of erysipelas cause a remarkably swift disappearance of the pathological deposits of cancer and sarcoma in these diseases. Fehleisen and Neisser injected in hopeless cancer cases pure cultures of cocci of erysipelas. Although they succeeded in their object these cultures are, nevertheless, too dangerous for general use, inasmuch as one case died as a result of the injection. The authors, therefore, introduced a serum containing all the



potent properties of the above, but without the cocci of erysipelas.

This serum the authors call cancer serum. The mode of preparation is as follows: A sheep that had been inoculated with cultures of erysipelas is bled; the blood is caught in sterilized vessels. After a certain time the supernatant serum is taken up in pipettes and freed from the cocci of erysipelas by filtration through Chamberlain filters. This cold, sterilized serum is filled into flasks holding 10 cc., antiseptically sealed and kept in a cool and dark place.

With this serum the authors attempted a cure in a number of more or less hopeless cases of cancer. Only in two cases, in which a secondary injection and suppuration in the cancer occurred, was the serum useless. In all other cases a noticeable improvement showed itself in a short time. The authors will not maintain that on the basis of their observations they have found a cure for cancer. Above all, the experiments are only a few months old, so that the following weighty questions—Is the serum a specific against all cancers or only against certain ones? What is the dose? How often repeated? Is not the remedy dangerous?—cannot be definitely answered.

The authors never saw any dangerous effects, even after 30 cc. had been injected, as high temperatures, etc. A long list of experiments must be made by the authors before these questions can be determined.—*Thierarzt Woch.*

#### BONY DEPOSITS IN THE INTESTINAL WALLS.

Bony deposits in the intestinal walls are extraordinarily infrequent. Drouin describes a case in which such deposits were present in the walls of the large colon. The autopsy held upon a horse subject to colics, the last of which resulted in congestion of the gut, complicated by rupture of the same, showed that the colon, a short distance from the seat of rupture, was covered with hardened nodules whose size varied from a pin's head to that of a finger nail. These nodules, imbedded in the mucous membrane, were easily dislodged upon the slightest pressure. The microscope showed that

these nodules consisted of compact bony tissue; the subcutaneous connective tissue in the vicinity of these nodules was thickened, the muscular layer, on the contrary, atrophied.—*Oest. Rev. Thierhlk.*

#### CONGENITAL CURVATURE OF THE CERVICAL SPINE IN A FOAL.

Bayer reports a remarkable case of congenital curvature. The neck extended forward from the thorax almost horizontally to the level of the fourth cervical vertebra, then an acute kink or bend to the right and downward occurred so as to bring the nostrils almost on a line with the upper rim of the wall of the right hoof. The whole cervical spine showed in general a curvature to the right, which at its dorsal end extended into the dorsal spine in such a way as to bend the latter also toward the right, and thus apparently shoved the sternum considerably to the left. The left half of the thorax was not only flattened but considerably drawn in. The facial lines presented a concavity to the left, and a convexity to the right. If the foal moved very leisurely it could walk straight forward, otherwise it veered off to the left. On attempting to seize fodder from above (rack) it had to adjust its head so as to turn the throat upwards and to the right, thus giving the neck a serpentine appearance. Bayer is of the opinion that this anomaly is the result of protracted abnormal position of the foetus during uterine life, a possibility referred to by Frank in his work on obstetrics.—*Thierarzt. Woch.*

#### LOCAL ANÆSTHESIA PRODUCED BY THE INJECTION OF WATER.

Sleich describes a method of producing local anæsthesia by intra-cutaneous injection, water being the chief agent employed, small proportions of other ingredients being used to modify its action. Lesions following the use of water alone are prevented by the addition of small proportions of ether and glycerine. The liquid is reduced to a low temperature. He recommends the following: Boiled distilled water, 6 ounces; pure neutral glycerine, 3 ounces; ether, 90 grains.

Ten injections, of 150 grains each, of this solution may be administered without any inconvenience. The proper temperature may be obtained by the use of a carbonic acid apparatus, requiring about forty seconds to bring about the proper temperature, 14° C. Bulbs of ethyl chloride may also be employed.—*Poit. Med.*

#### BEHAVIOR OF URINE WITH THE POLARISCOPE.

Abnormal urines often rotate the plane of polarization, sometimes to the right, sometimes to the left. According to Hass, the following substances in the urine cause left-handed rotation: Glycuronic acid, phenyl and indoxyl-glycuronic acids, leucin, tyrosin, albumin, peptone, hemialbumose, cystin, cholestrin, aspartic acid, levulose, pseudo-butyric acid. Dextrose is the chief and almost only substance responsible for dextro-rotation.—*Apoth. Zeit.*

#### NUCLEIN THERAPY.

After many experiments V. concluded that nuclein is a germ-destroying substance. By repeated trials with the nuclein he finally was able to cure guinea pigs that had been inoculated with tuberculous germs. Further, the same nuclein injected into guinea pigs rendered them non-susceptible to the action of pneumo-cocci. In the human subject, it has been used with the result of curing cases in the primary stages of the disease, delaying the disease when further advanced, and of having no effect in advanced stages. The difficulties in preparing nuclein for this purpose have been many, and the results obtained by the use of the remedy are improved in proportion to the perfection of the process of manufacture. The general method of preparation is to dissolve the nuclein from the rest of the cell by a strong alkali; after acidulating, the nuclein is precipitated by alcohol; after repeatedly washing this precipitate with acid alcohol, it is dissolved in a solution of chemical salts similar to that found in the blood. In practice this solution is injected under the skin or into the muscular substance. It is believed that nu-

clein not only destroys disease germs, but also acts as a food or stimulant to those organs in the body which normally furnish nuclein to resist invading germs.—*Chem. Gaz.*

#### TUBERCLE BACILLI IN BUTTER.

A few years ago Heim proved that butter produced from tuberculous milk contained bacilli, and could produce infection. Bang reached the same conclusions. Roth confirmed these observations. Twenty samples of Swiss butter were experimented with, of which two contained bacilli; Brusaferro of Turin obtained similar results from an examination of Italian butter.—*Schweiz. Aertz.*

#### CANCER AND PORK.

Vernuel and Roux are disposed, as the result of observation and research, to regard cancer as being frequently caused by the use of pork. V. declares that he has observed in the course of his surgical career that the Israelites, who refrain from pork as an article of food, are always refractory to cancer, and this idea had presented itself afresh in connection with two special cases.—*Chem. Gaz.*

#### A CASE OF COMPLICATED TRAUMATIC PERICARDITIS.

A six-year-old cow showed outward symptoms of reticulitis. After three days' treatment there was a marked swelling of the tracheal glands, quickened respiration, accompanied by a constant groan; in the neighborhood of the heart decided evidence of fluid noises. Next day marked increase of both rational and physical signs.

By means of a small trocar and canula, two pints of a yellow serous fluid were drawn from the pericardium. The next day auscultation and percussion showed the same amount of fluid as before the puncture. The cow died the next night.

*Post Mortem.*—Considerable fluid in the pleural and pericardial sacs. The left ventricle was firmly bound by adhesions to the diaphragm. In the midst of these adhesions lay a large darning needle.—*Schweiz. Arch. Thlk.*



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 TYMPANITES IN AN OX—VOMITING OF A HAIR-BALL.

R. was called to see an ox which had suddenly swollen up to an alarming extent, and seemed to be in extremis. While preparing appropriate therapeutic agents, the animal fell and made violent efforts to vomit. In the act of vomiting that subsequently occurred, a small quantity of chewed hay and a hair-ball were expressed.

The animal recovered immediately. The circumference of the hair-ball measured twenty cm.; the periphery was hard and smooth.—*Schweiz. Arch. Thlk.*

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## SOCIETY MEETINGS.

## UNITED STATES VETERINARY MEDICAL ASSOCIATION.

The Thirty-second Annual Meeting of this Association will convene in Des Moines, Iowa, Sept. 10th, and will be in session on that day, the 11th and 12th.

A very large attendance is confidently anticipated, which is entirely justified by the central location of this year's meeting, as well as by the splendid programme, which is as follows:

"Tuberculosis." M. R. Trumbower.

"Tuberculosis." W. B. Niles.

"Horse-shoeing." L. McLean.

"Accidents Incident to the Casting and Confining of Animals for Surgical Operation." Tait Butler.

"Roaring." S. J. J. Harger.

"Millet Disease." T. D. Hinebauch.

"The Horse as a Producer of Antitoxine." Olof Schwarzkopf.

"The Therapeutics of Colic." W. L. Williams.

Title not given. R. S. Huidekoper.

"Hypodermic Cathartics." M. H. Reynolds.

The Committee on Diseases will report as follows:

"Actinomycosis—Vegetable Parasitic Diseases." M. R. Trumbower, Chairman.

"Texas Fever." R. R. Dinwiddie.

"Cornstalk Disease." M. H. Reynolds.

"Tuberculosis." John Faust.

"Glanders." S. J. J. Harger.

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ASSOCIATION OF VETERINARY FACULTIES OF  
NORTH AMERICA.

The meeting of this Association will take place on the first two evenings of the meeting of the United States Veterinary Medical Association, at Des Moines, Iowa, which convenes on the 10th inst.

The programme is as follows:

1. "Results of Prescribed Entrance-Examination." Speaker, Dr. Wattles, Kansas City.
2. "State Boards of Veterinary Medical Examiners and their Relation to Veterinary Colleges." Speaker, Dr. Detmers, Columbus, Ohio.
3. "Uniform Course of Instruction in the Schools belonging to this Association." Speaker, Dr. Adams, Phila., Pa.
4. "Mutual Recognition of Students belonging to this Association." Speaker, Dr. Gill, New York.
5. "Uniform Veterinary Degree." Speaker, Dr. D. McEachran, Montreal, Can.
6. "Competitive Examination for Positions in Veterinary Faculties." Speaker, Dr. Liautard, New York.
7. "College Fees."

OLOF SCHWARZKOPF,  
Chairman of Executive Committee.

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VIRGINIA STATE VETERINARY MEDICAL ASSOCIATION.

The above Association met in the Veterinary Department of the Virginia Agricultural and Mechanical College, Blacksburg, Va., Tuesday, June 18, 1895, in regular session.

Dr. W. H. Harbaugh, of Richmond, Va., President of the Association, delivered his annual address, after which subjects pertaining to the status of veterinary colleges and to veterinary education generally were discussed at length.

It was learned during the discussion that a certain veter-

inary college had issued a diploma upon an attendance in college from last November to April. This man is now advertising extensively in this State and competing *as a graduate* with men who have earned their diplomas. Much indignation was expressed because an institution of pretended merit should send into this State, where none are protected by any laws, men who are in reality not sufficiently educated and whose diplomas in no way represent true qualification.

The report from the Committee on Collective Statistics was a valuable paper upon the diseases of the State. Tuberculosis, Southern cattle fever, influenza, strangles and pneumonia prevailed in about the order named; epizootic pharyngitis prevailed in Richmond and Norfolk. An outbreak of anthrax was reported from the western part of the State.

Among interesting cases reported, Dr. J. E. Miller reported rupture of the stomach in a stallion.

Dr. H. Bannister, of Roanoke, reported the post mortem lesions in a case of adenoma.

Dr. Niles, of Blacksburg, reported a case of anthrax.

Dr. Faville reported a case of pyæmia following pharyngitis.

Drs. Marshall and Dixon reported some interesting surgical cases.

Dr. Harbaugh read a very interesting paper on "Pleural Pregnancy," involving some fine points in jurisprudence.

After being most splendidly entertained by Prof. Niles and his estimable wife, the Association adjourned to meet in Richmond, Jan. 2, 1896, at which time the election of officers will take place.

GEO. C. FAVILLE, D.V.M., Secretary.

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PENNSYLVANIA STATE VETERINARY MEDICAL ASSOCIATION.

The Semi-Annual meeting of the Pennsylvania State Veterinary Medical Association will be held at the Mountain House, Cresson, Pa., Tuesday, Sept. 3d, at 10 o'clock.

Papers will be furnished by Dr. James A. Waugh on "Paracentesis Abdominalis," Dr. Otto Noack on "Trichinosis," Dr. W. L. Rhoads on "Pathogenesis and Development of

Diseases," Dr. Jacob Helmer on "Physical Diagnosis," Dr. Charles Bland, subject not given.

There will also be reports of interesting cases. A good attendance is expected.

F. S. ALLEN, Secretary.

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PENNSYLVANIA STATE ALUMNI ASSOCIATION OF THE A. V. C.

The first Annual Meeting of the Pennsylvania State Alumni Association of the American Veterinary College, was held at Runnymede Club, Lansdowne, Pa., June 11th.

In the absence of Dr. Allen (who was elected Chairman at the preliminary meeting, held at the office of Dr. W. H. Hoskins, February 12th), Dr. Goentner was elected Chairman *pro tem*.

After the reading and adoption of the minutes of the February meeting, the merits of a State Alumni Association were discussed, thus bringing forth its advantages for the school and profession as well as the men individually.

Then officers were nominated for the ensuing year. There being no contest, the Secretary was instructed to cast the ballot as follows: President, W. L. Zuill, Phila.; 1st Vice-President, Chas. T. Goentner, Bryn Mawr; 2d Vice-President, W. S. G. Beeber, Kutztown; Secretary-Treasurer, W. L. Rhoads, Lansdowne; Executive Committee, W. H. Hoskins, Philadelphia, F. S. Allen, Philadelphia, A. O. Cawley, Milton, H. C. McClellan, Lansdowne, I. L. Bradley, Mercersburgh.

The Executive Committee were instructed to draft by-laws, etc.

The meeting was well attended, and, after a sumptuous repast adjourned to meet at the call of the Chair.

W. L. RHOADS, Secretary.

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KEYSTONE VETERINARY MEDICAL ASSOCIATION.

The last meeting of the Keystone Veterinary Medical Association for the session of '94-'95 was held at the Runnymede Club, Lansdowne, June 11th, on invitation of Dr. Rhoads, and was well attended.

In the absence of President Lintz, Dr. Bridge presided. After roll-call and reading and approval of the minutes of



the May meeting, Dr. W. S. G. Beeber, of Kutztown, was elected to membership.

Dr. John P. Hart was appointed to draft a letter to the Governor regarding appointments on State veterinary examining boards.

This being the last meeting of the current year, the regular routine of business and literary exercises were dispensed with and the evening devoted to general business questions and social enjoyment.

Those present were: W. S. G. Beeber, J. L. Bradley, F. Bridge, A. O. Cawley, C. T. Goentner, W. H. Hoskins, J. D. Houldsworth, H. J. McClellan, B. T. Sensemen and W. L. Rhoads.

After a very pleasant evening the meeting adjourned to meet at the office of W. H. Hoskins, September 17, 1895.

W. L. RHOADS, Secretary.

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#### WISCONSIN SOCIETY OF VETERINARY GRADUATES.

We are advised by Secretary W. G. Clark, that this Society will not hold a semi-annual meeting this year, but that the regular annual meeting will be held in February, the date and place of which will be announced in the REVIEW in a later issue.

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#### NEW HAMPSHIRE VETERINARY MEDICAL ASSOCIATION.

Secretary Dr. L. Pope, Jr., of this Association, advises us that the next meeting will be held in October.

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#### VETERINARY MEDICAL ASSOCIATION OF NEW JERSEY.

Dr. S. Lockwood, Secretary of the above Association, informs us that hereafter there will be but two regular meetings each year, which will occur in April and October.

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### CORRESPONDENCE.

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#### PROF. LAW DEFINES HIS CONNECTION WITH THE EXAMINING BOARD.

*To the Editor of the American Veterinary Review:*

DEAR SIR.—I beg of your courtesy, the privilege of a word on the Veterinary Examining Board of the Empire State, as

the criticism in the August REVIEW will doubtless be accepted by many as having special reference to the undersigned. I was unable to be present at the New York meeting for nomination, and cannot speak from personal knowledge, but I have been informed that the resolution introduced before the recess, was not simply to exclude teachers of veterinary schools, but teachers "in any educational institution." Surely no one on sober second thought would advocate a resolution of this kind. I do not for a moment suppose that its full meaning could have been realized by its advocates. I can suppose that it was proposed hastily and inconsiderately, and that it was abandoned when its true import was more fully realized.

The objection to teachers in veterinary schools has more to be said for it, and yet it seems to me it is not so farcical, mischievous and unjust as has been charged. Were this a *viva voce* examination, or were the papers signed by the respective candidates the objection would be valid; but when examiners and examined do not meet at all and when the examination papers are identified by numbers only, the objection loses all its force. It is true that through collusion papers could be identified by private marks, but it is to be hoped there is no teacher who would condescend to such infamous practice. If we can suppose such a thing possible for the teacher it must be allowed to be equally possible for the practitioner, and for the man who could descend so low it is not difficult to conceive of objects to be gained beside the mere advancement of a particular school. Any such practice, however, would soon work its own cure, as the high marks given by one examiner to a candidate who proved to be utterly unfit to be passed by the others, would soon lead to the discovery and correction of the fraud.

Then as to unconscious bias: Is it not as dangerous to appoint the students as the teachers of any given school? If the teacher has a desire to see his school prosper, so has the alumnus for his alma mater. If a teacher has a given method of instruction, the graduates who have been under this particular method must still bear its influence and are open to

the same objection as the teacher. To avoid these alleged dangers it is not enough that all teachers should be excluded from the examining board. To be consistent we must equally exclude all graduates of schools from which the candidates for licenses are likely to come. The present may not be an entirely unobjectionable arrangement, but surrounded as it is by existing safeguards, the objection is not so very momentous. It has been my experience for many years to be one of nearly two hundred teachers who examined their own students for degrees, and there has rarely been a complaint that substantial justice has not been done in every case.

Finally, I must notice my personal position in the matter. The criticism in the REVIEW entirely misses its mark in my case, since I am not a teacher in a veterinary school which will send candidates before the examining board. For many years "Cornell University" has declined to admit men to study with the view of receiving a veterinary degree from the institution, for the good and sufficient reason that we have not had a fully equipped veterinary school. Moreover, the new State Veterinary College, the buildings for which are now in course of erection on our university campus, will not be opened until September, 1896. No matter, therefore, how advanced may be the standard of any man who shall enter that college, he cannot possibly graduate from it until June, 1897. Students entering as freshmen in 1896 will presumably not graduate until 1900. On the grounds of disqualification as alleged by the critic, therefore, I am just as eligible to serve on the board as is any private veterinary practitioner. For the next two years I cannot possibly have a student of my own present himself for examination. For the third and fourth years from the present any candidates who may present themselves from the New York State Veterinary College at "Cornell" will be quite as much representatives of other colleges where they spent their first two years, as they will be of the institution here. But my appointment as examiner is only for one year. Next May, at the latest, the State Society is bound by the terms of the law to submit a list of ten names of persons eligible for appoint-

ment for the coming year. If thought best, my name can then give place to another, a full year before my presence on the board can be objected to on the ground advanced. If, on the contrary, the society should honor me with a second nomination, and if I should again be appointed for the year 1896-97, I shall feel that my position is as unassailable as will be that of any of my practitioner colleagues.

It is but just to say that even in the prospective future, should I live to teach in the new State Veterinary College, I shall have the happy consciousness of being absolutely removed from all connection with students' tuition fees, which constitute, after all, a main source of temptation to the teacher. This element, with whatever there may be in it unfavorable to an unbiased judgment, will be as thoroughly removed from the teacher of the college as it is now from the faculty of the university.

Pardon me for writing at this length, I have felt called upon to repudiate the undeserved impeachment, and I can not do this without reference to the facts of the case. We have in the past year accomplished much for the veterinary profession. Let us not now endanger the good secured by falling out among ourselves. The existing board of examiners may not be in every sense an ideal one, but they will do their duty to the best of their ability, and perhaps the first year's experience may reconcile them to the thought of retirement. In one year not only can the personal element be altered, but by-laws, syllabus, questions and methods of marking can be changed radically and fundamentally, according to the views of the new incumbents, and the advancement of science.

Respectfully,

JAMES LAW.

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### NEWS SUMMARY.

THE DEATH OF A MAN FROM GLANDERS.—On the 4th ult. there died at 1270 Putnam Ave., Brooklyn, a well-known builder named Joseph Hopkins, and the certificate of death deposited with the Bureau of Vital Statistics of

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that city assigns the cause as glanders. The brief history of the case is as follows: Hopkins owned a horse which had been running down in flesh, and he was administering some alterative at the suggestion of a "horsey" neighbor. In giving a bolus his hand became slightly lacerated against the horse's teeth, but he continued to treat him. His nostrils began to discharge, but still he did not suspect the true nature of the ailment, and went about the horse as before, frequently sponging out the discharge with no precautions. Meantime the horse grew worse, and "farcy buds" showed themselves upon the hind extremities. About this time (July 10th) Hopkins was seized with a chill, and took to his bed, his physician diagnosing his case as "threatened typhoid fever," afterwards modifying it into "malaria." On the 15th the horse was destroyed by an officer of the Society for the Prevention of Cruelty to Animals, he exhibiting the cardinal symptoms of glanders and farcy. The owner of the horse gradually grew worse, and on the 31st another physician was called, who, with the history of his contact with his diseased horse, and the now rapidly developing local symptoms, at once made out a diagnosis of glanders, and the patient died on the morning of the 4th, having been unconscious for about forty-eight hours. The local symptoms are stated by the physician to have consisted of a chain of suppurating lymphatic glands along the outside of one leg, swelling of the feet, nodules upon the brow and neck, and at other points about the body, discharge from the nostrils, and physical symptoms of glanderous pneumonia. The temperature is stated to have never exceeded 103° F., though the patient received antipyretics whenever it reached that registry.

AN INTERESTING EVENT.—Dr. John W. Gadsden, of Philadelphia, President of the St. George's Society of that city, and a veterinarian of national reputation, and Mrs. Lucy M. Michener, widow of the late Prof. Charles B. Michener, who was formerly connected with the Agricultural Department and with various veterinary colleges, were married recently at the Church of the Incarnation, in presence of a large con-

gregation. The bride's wedding gown was of silver and white brocade, trimmed with elegant pearl passementerie and point lace. The ceremony was followed by a breakfast at the Riggs House, which was attended by a large number of the wedding guests. Dr. and Mrs. Gadsden left on a tour of the Thousand Isles and vicinity, and will be at home after September 15th, at 128 North Tenth Street, Philadelphia.

VETERINARY PRESCRIPTIONS IN PAPERS.—As an illustration of the ridiculous practice of veterinary surgeons conducting "Veterinary Departments" in agricultural and sporting periodicals, and the absolute worthlessness of their opinions, based on the owner's diagnosis, we print the following query, clipped from one of these publications: "Mare six years old, got lame a year ago last April while scraping dirt. She had to climb a high bank which was very stony; was lame about two weeks, but did not get entirely well. Then in October she ran away and ran through a creek, and she has been lame ever since. She cannot travel on rough roads. If she steps on a stone she flinches as if her foot were sore." To which the editor of the department, a veterinarian, replies: "Apply equal parts extract of witch-hazel and alcohol to shoulders twice a day. Be sure your collar fits her shoulder properly." And we can supplement this answer by saying: "If this guess isn't right, we will try again."

RABIES IN ENGLAND.—Rabies is said to be increasing in England. In the first five months of the year 1892 there were only eleven cases reported. During the same period of the following year there were thirty-seven cases, while in the first half of 1894 the number of cases reported was eighty; and this year it is three hundred and seventy-three.

ANIMAL PATHOLOGY is the title of "Bulletin No. 35" from the Arkansas Experiment Station, Fayetteville. In it Dr. Dinwiddie treats of verminous bronchitis, milk fever, hog cholera, tuberculosis and glanders.

NEW JERSEY ON BOVINE TUBERCULOSIS.—Dr. J. W. Stickler, Chairman of the Committee on Bovine Tubercu-

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losis, stated that he and Dr. A. V. M. Baldwin, members of the committee, had again gone before the committee of the Legislature and advocated the passage of a bill providing for the inspection of herds of cattle throughout the State, and the destruction of such as might be found tuberculous. It was objected to on account of its mandatory character, and the fact that a veterinarian was to be inspector. Of course, without such provisions the law would be worthless, as the present one was proving itself to be. On motion the committee was continued.—*Medical Record*.

**HOLSTEIN-FRIESIAN CATTLE.**—Director James Wilson, of Iowa Agricultural College Experiment Station, is making good progress in his work with various breeds of dairy cattle. Under date of August 2d Mr. Wilson writes: "We have been doing some work at this station with regard to testing Holsteins for the Advanced Registry, and take great interest in the breed. We keep from twenty-five to thirty head of them on the farm, and find that they are not excelled in amount of butter fat by any of the other three breeds we keep here."

## EXCHANGES, ETC., RECEIVED.

### FOREIGN.

*German.*—Berliner Thierärztliche Wochenschrift. Thiermedizinische Vorträge. Oesterreichische Monatsschrift für Thierheilkunde. Schweizer Archiv für Thierheilkunde. Topographische Anatomie der Körperhöhlendes Rindes. Zeitschrift der Veterinärkunde für Rossärzte der Armee. Therapeutisches Handbuch von Engen Bass.

*French.*—Bulletin de Médecine et de Pharmacie de Burgraeve. Le Progrès Vétérinaire. La Presse Vétérinaire. Revue des Sciences Médicales.

*English.*—Veterinary Record. Veterinary Journal.

*Italian.*—La Clinica Veterinaria. Giornale di Medicina Veterinaria Practica.

### HOME JOURNALS.

Medical Journal. Medical Record. Medical Review. Modern Medicine Medical Brief. Journal Comparative Medicine and Veterinary Archives. Therapeutic Gazette. Farm and Home. Sanitary Era. The Horseman. Agricultural Epitomist. American Agriculturist. Breeders Gazette. Our Animal Friends. Spirit of the Times. Turf, Field and Farm. Wisconsin Agriculturist. Michigan Farmer.

Independent Statesman. American Cultivator. Minnesota Horseman. Ohio Farmer. American Horse Breeder and Sportsman. National Stockman and Farmer, Etc.

#### PAMPHLETS, CATALOGUES AND BOOKS.

Bulletin Experiment Station, Baton Rouge, La. Report Lebanon Hospital. Report Storrs Agricultural College, Iowa. Board of Health Abstracts of Linnaean Society. Annales d'Oculistique, "English Edition." Laminectomy for Potts' Paraplegia, by Dr. S. Lloyd, Chicago Veterinary College. Toronto Veterinary College. New York Veterinary College. Massachusetts Laws. Public Papers of Gov. Flower. Medical Directory City of New York. Catalogue of the National Veterinary College, Etc., Etc.

#### COMMUNICATIONS.

Dr. J. M. Parker. O. Schwarzkopf. J. E. Ryder. R. A. Archibald. L. Pope. N. P. Hinkley. W. V. Bieser. G. E. Griffin. R. R. Bell. L. Pearson. S. J. J. Harger. G. Ditewig. F. S. Allen. R. B. Plageman. J. A. Couture. D. Lemay. Prof. Smith. T. King. H. Neher. W. H. Gribble. Geo. C. Faville. W. L. Williams.

#### PUBLISHER'S NOTICE.

We are instructed by Charles A. Runk, receiver of the late firm of Sabiston, Murray & Co., to state that in all cases where subscribers to the AMERICAN VETERINARY REVIEW have paid their subscriptions for the year 1895 and hold a receipt of the said firm, that their subscription fee will be returned to them when the affairs of that concern are wound up.

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